

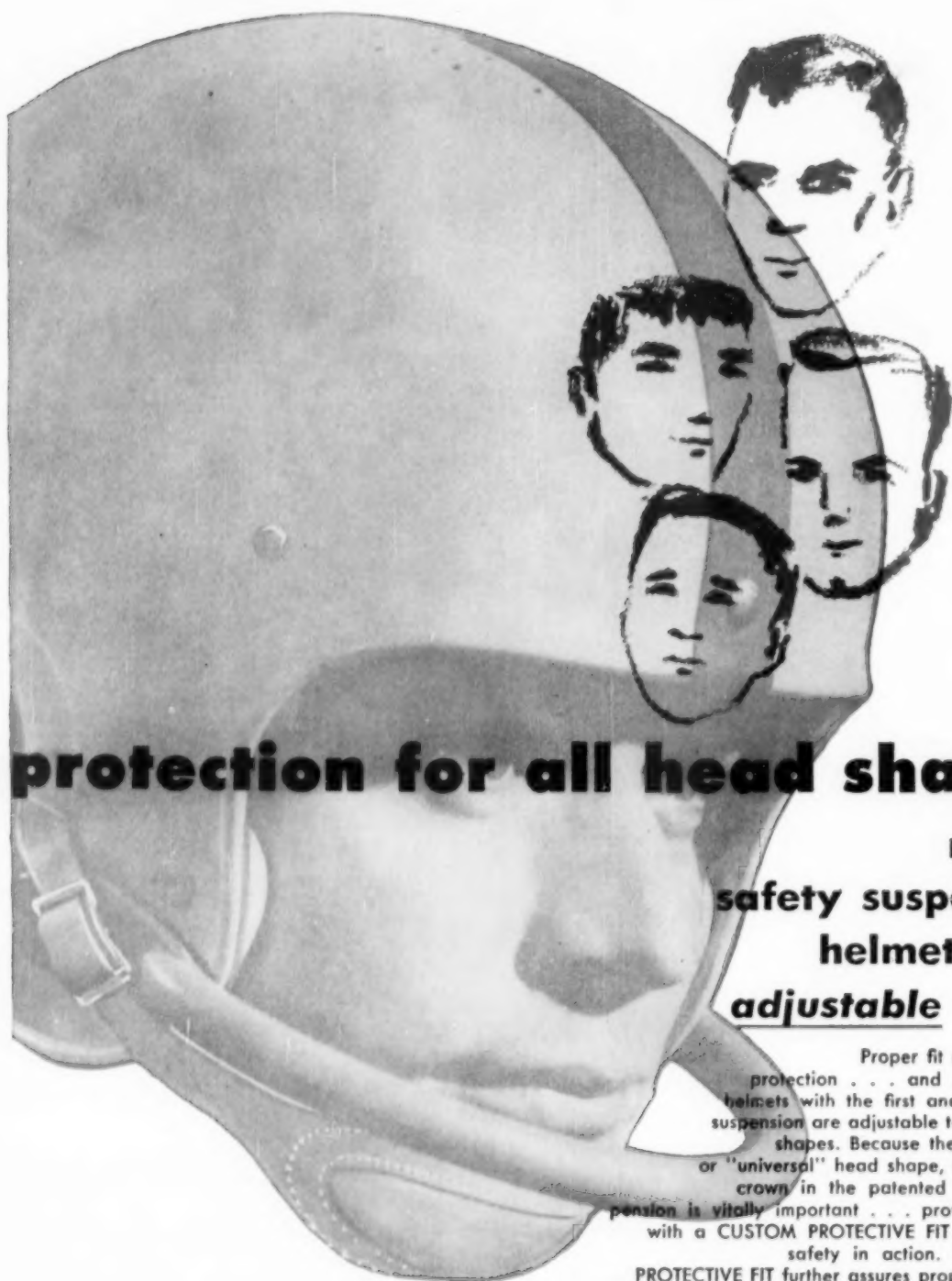
SCHOLASTIC  
**COACH**

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JANUARY, 1957

**BUILDING**  
AND  
**EQUIPMENT**

ISSUE • 35c



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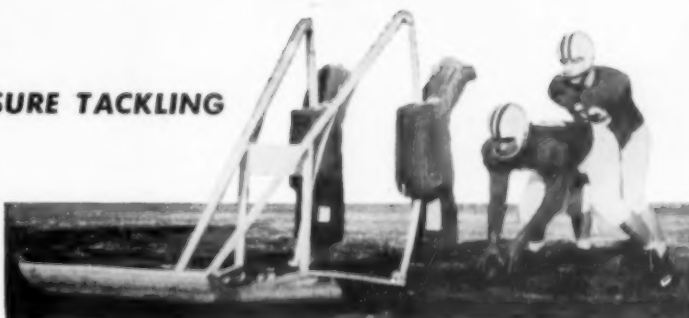
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VOLUME 26 • NUMBER 5 • JANUARY

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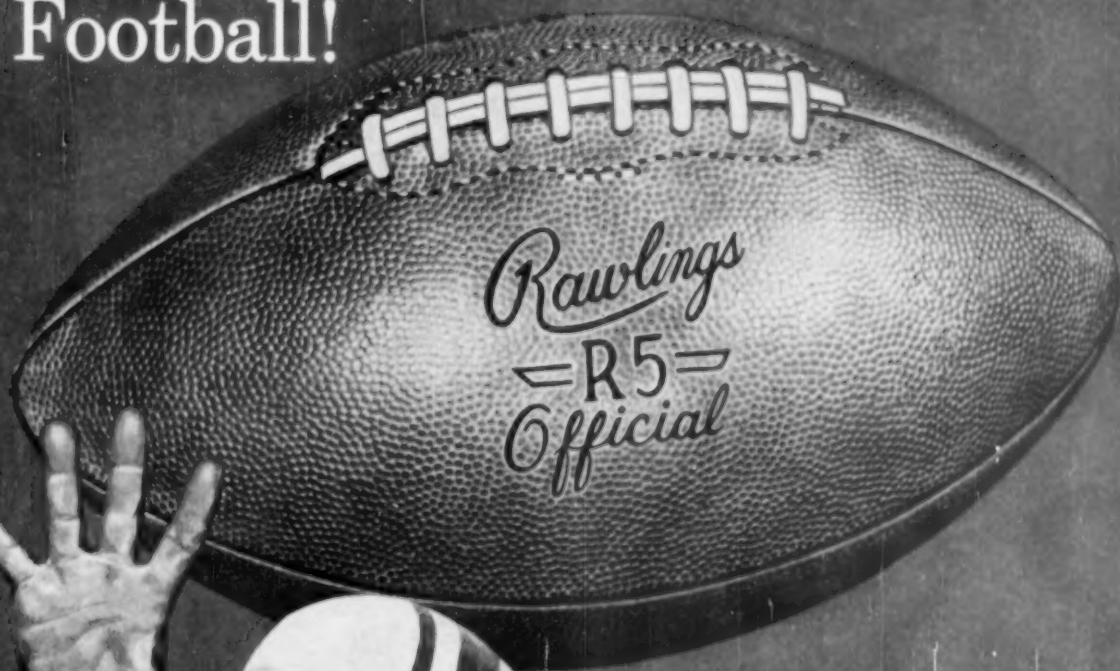
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# Will success spoil Rokossovsky Hunter?

**I**N traditional *Scholastic Coach* fashion, we're mustering in the New Year with a tasty package of building and equipment goodies. Representing our 19th annual Building & Equipment issue, it's loaded with practical ideas that'll help solve your difficulties—whether it's building a grandiose gym, storing away your football equipment, planning a new track, or "shooting" your games.

With gym and field construction booming along at an all-time high, the need for helpful materials is more urgent than ever. And that's precisely the purpose of our Building & Equipment issue. It offers perhaps the most comprehensive source of information available to schoolmen, and—judging by all your wonderful letters—it's really doing a job in the field (and gym).

**C**ALL it alibi-ikeing or sour-griping, but that Russian "victory" at Melbourne rang hollower than a two-buck violin. Take away their 11 gold medals in that intoxicating sport known as "gymnastics" plus their five gold pieces in something called "graeco-roman" rassling, and whadda ya got? Borscht!

Let's face it: The Russians "won" by sheer force of numbers and heavy concentration on the minor sports. They spent about 10 times as many rubles and at least 25 times the energy as we did in preparing for the Games, and we don't see how they can construe their "victory" as a triumph over decadent democracy.

If it were possible for them to choke on a conquest, that's what they must be doing now. How can you make capital (Moscow should excuse the expression) out of an expensively bought victory like that?

One of the more amusing aspects of the muscovite triumph is that they owe it all to—Uncle Sam's

sportswriters! As you probably know, there's no official scoring system in Olympic competition. A gold medal is awarded for first place, a silver medal for second, and a bronze medal for third. And that's it.

Our point-happy scribes, however, haven't been content with leaving well-enough alone. They insist on following a scoring system wherein the first six places are scored on a 10, 5, 4, 3, 2, 1 point basis.

The fatal fallacy of this sort of scoring is obvious. *The events aren't weighted in importance.* A team victory in basketball or soccer or a gold-medal performance in track or swimming, for example, will yield the same number of points (10) as, say, a victory in such soul-stirring events as the women's side horse vaulting, the individual dressage grand prix (equestrian), the dinghy Finn class yachting, or the 10,000-meter kyak singles.

Of such stuff was the Russian "victory" fashioned. But we can't

bleat. It's our scoring system, and at Melbourne the Russians certainly made their points.

**I**T WAS a balmy winter evening and a goodly crowd was there when Notre Dame dribbled into Madison Square Garden on December 29, 1934, to face New York University.

The pairing for this first regularly scheduled game in the Garden was a natural. Both teams were national powerhouses and both featured a famed "goon" center. For the Fighting Irish, it was Marty Peters. And for the violent Violets, it was "King Kong" Klein.

The basketball shots fired that night were heard 'round the world. For that game—played in a big league setting before the largest crowd in hoop history—launched basketball as a major sport.

Though the details of the game have vanished in the chinks of time,

(Continued on page 69)



Now, why can't YOU jump like a reactionary Fascist beast?

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## Wilson NEW LAST FOOTBALL SHOE

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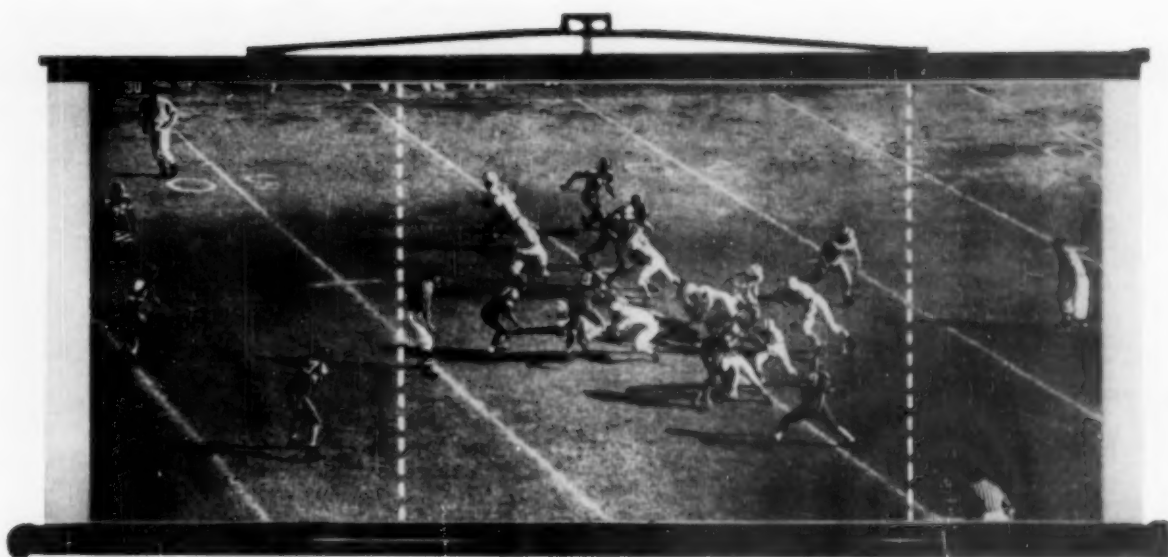
Flexibond construction, exclusive with Wilson, bonds the Drilite sole to the upper without stitching. Sizes 6-13, including half sizes. Widths D and E.

After six years of development and testing, this game shoe provides better support, minimizing muscle fatigue in foot and ankle—better balance and weight distribution. It all adds up to player confidence—sure-footed agility—faster starts. Team success begins with the New Last Wilson shoe—right from the ground up!

# Win With Wilson

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Projection of cinemascope shot on Radiant extra-wide screen. Area between white lines shows range

of regular lens, while over-all picture illustrates range of anamorphic lens—which is  $2\frac{1}{2}$  times wider!



Victor silent projector (with 2,000-reel capacity and rheostat speed control for slow motion) showing attachment of anamorphic lens.

## Shoot Your Games in Cinemascope!

By HAROLD HAINFELD and DICK FLANAGAN

Roosevelt School, Union City, N. J.

St. Peter's Prep, Jersey City, N. J.

**E**VERY pro team, nearly all the colleges, and a great many high schools are now taking 16-mm. slow-motion movies of their games. Slow-motion movies, shot at 32 frames per second, has the effect of magnifying time. When projected at 16 frames a second or slower, the play remains on the screen at least twice as long as it did on the field.

Most coaches prefer to shoot their games with a 2-, 3-, or 4-inch telephoto lens, depending on the distance of the camera to the action on the field. The purpose of using the telephoto lens is to get nearer to the play.

It's somewhat like looking through a telescope. The action is enlarged and brought closer, depending on the length of the lens. The longer the lens, the greater the magnification. But the field of action is limited accordingly. In short, you see fewer players but in larger detail.

The telephoto lens has its limita-

tions, however. On pass plays, it cannot encompass both the passer and the downfield receivers and pass defense. And on punts, it cannot catch both the kicker and the ends and other linemen going downfield. As soon as the punt is away, the cameraman must swing the camera from the kicker to the receiving area. Some of the game action is thus missed.

On end sweeps and even on plays into the center of the line, the camera cannot pick up the action of the safety man, deep backs, or the downfield blockers until they approach the ball-carrier. On extra points, the camera is focused on the line and the kicker may be excluded until the ball is well on its way toward the goal posts.

While this action could be taken with a one-inch lens, the camera is usually so far from the action that the players would appear too small

(Concluded on page 44)



Bolex 3-lens turret camera equipped with anamorphic lens, attached to regular lens by an adapter ring.



By **STANLEY W. WRIGHT**  
Superintendent, West Springfield (Mass.) Public Schools

## THREE GYMS IN ONE!

**W**EST SPRINGFIELD, Mass., a town of 25,000 located just across the Connecticut River from Springfield, boasts one of the really outstanding school systems of the country.

The high school is but one of several new schools erected in the past several years. The contract was let in September 1954 and the building was essentially completed on Sept. 1, 1956.

Organized on the four-year plan, the school occupies a spacious site of 65 acres of which about 48 have been improved. It includes spacious parking areas, lawns, tennis courts, a natural area for the development of biological specimens, a baseball diamond, a soccer field, a football gridiron surrounded by a cinder track with two straightways, and a hard-surfaced area for badminton, volleyball, basketball, etc.

The large gymnasium and the correctional gymnasium provides the indoor facility for physical education and athletics. The large gym is 120 feet long and 100 feet wide. When used as a game facility, it accommodates an ideal basketball floor measuring 84 feet by 50 feet, and can seat 900 people on folding bleachers.

Games are scheduled both for

weekdays and week-ends. When school will be held the following day, the games are played in the afternoon. This enables the students to have another night or two at home each week of the winter season. The Friday and Saturday games are played at night.

We experimented with this plan last year and found it very satisfactory. We realize that there are fewer admissions in the afternoon. But we must all recognize the fact that we are running educational institutions.

For physical education, the large gym can be divided into three teaching areas through the use of elec-

trically controlled doors. When these doors are closed, several groups may use the facility at one time.

Both natural and artificial lighting is available. The natural lighting is provided by a glass block wall on both the left and the right sides of the main gym, while the artificial lighting is furnished by twenty-four 1000-watt incandescent lamps in the ceiling.

The correctional gymnasium is much smaller than the main gym, and is used for small groups or for individual instructional activities leading to the correction of physical defects. We believe that this work should be done in small groups or by individuals.

The area will also be used for wrestling, boxing, dancing instruction, calisthenics, and other small group activities.

Attached to the gymnasium is a two-story section housing the girls locker and shower facilities on one floor and similar facilities for the boys on the other. Each locker room is 24 feet by 76 feet and holds 580 lockers.

There are also rooms for officials, storage, the drying of athletic equipment, and the washing of equipment. In reference to the latter, West Springfield has a unique or-

### EQUIPMENT SUPPLIERS

*Gym Floor*—No. 1 Maple Flooring

*Bleachers*—J. L. Hammett Co.

*Backboards*—Narragansett Co.

*Scoreboards*—Fred Medart Products

*Gym Equipment*—Fred Medart Products

*Corrective Room Equipment*—Fred Medart Products

*Lockers*—Berger Mfg. Co.

*Shower Fixtures*—Sagamore Engineering Co.

*Gym Mats*—Fred Medart Products



West Springfield High School gym viewed from cafeteria corridor; girls and boys locker rooms appear on right.



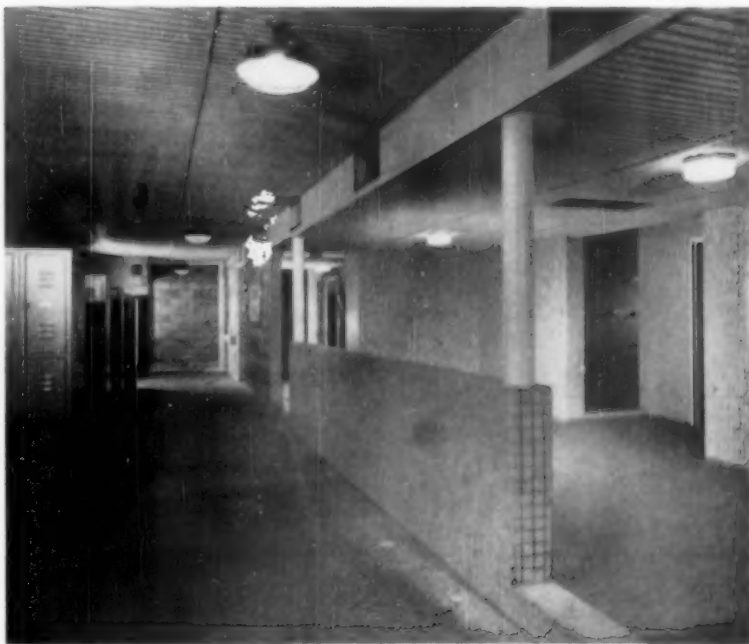
**View of large gym with folding bleachers open on the right and closed on the left. Note glass banks and the climbing ropes. Gym may be divided into three teaching stations by closing folding partitions (arrows).**

ganization of mothers who wash the equipment used by the athletes every night during the sports season.

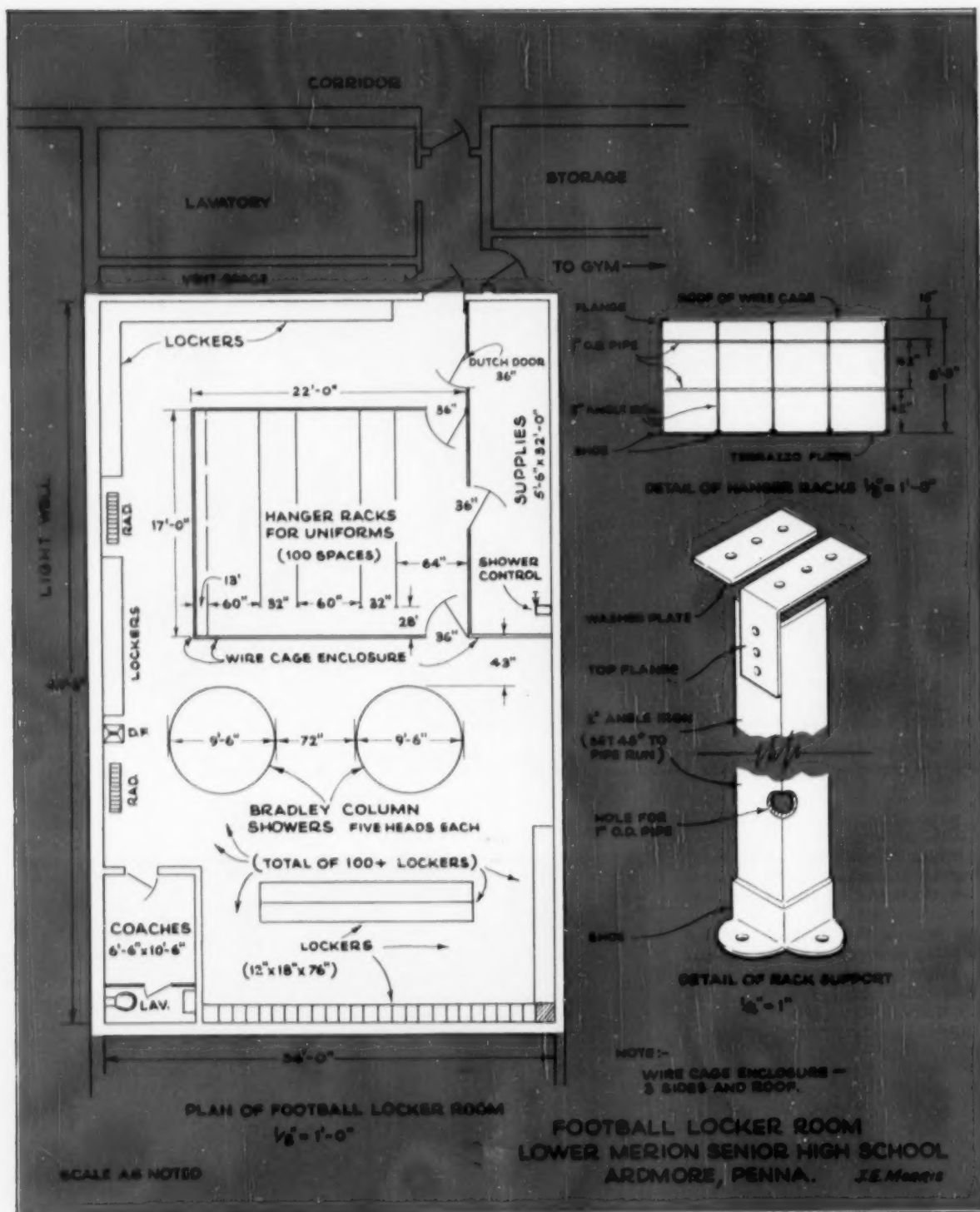
Known as the "Gridiron Mothers," they hold regular meetings and wash the clothes on a regular schedule so that every boy has clean equipment every afternoon. The equipment washing room is equipped with two washers and two dryers. The two drying rooms measure 11 feet by 13 feet each, and are equipped with forced heat and exhaust fans.

All the physical education areas are equipped with the latest equipment. Our objective is to serve all of the children to the best of our ability, rather than the few participating in athletics. The plant is tuned to this objective, although serving well the athletic needs of the school.

We believe that our plant is one of the best in the country. Anybody liking further information on any of the facilities or functions of the school is invited to write us or visit the school.



**Interior view of girls locker room, with the drying and shower rooms on the right. Boys locker rooms are similarly planned and laid out.**



Lower Merion has solved its football equipment storage problem through a combination locker, drying, and shower room that makes maximum use of the available space. Key to the equipment problem is a 22' x 17' wire cage enclosure having hanger-rack accommodations for 100 complete uniforms. Each player has a specific numbered hanger on which he hangs all his equipment (except shoes). Upon arriving for practice, he enters through one door of the

cage, picks up his hanger—which is always in the same place—and leaves by the other door. After suiting up, he leaves the empty hanger in his locker. After practice, he returns the loaded hanger to its place in the cage, where it dries out for use the next day. Note the excellent functional planning of the layout. Lockers, showers, drying cage, coaches' room, and supply room are laid out in beautiful proximity so that everyone has accessibility to all facilities.

By **JOHN T. MURRAY**, Equipment Supervisor, Lower Merion H. S., Ardmore, Pa.

# AN EQUIPMENT SYSTEM

## for a Large Sports Program



Issue window for tape, towels, etc.

**L**OWER MERION High School is extremely proud of its large and varied athletic program. We believe it rates with the finest in the East.

Instituted by our Board of School Directors and our fine superintendent, Dr. Philip U. Koopman, himself an ex-coach, in an effort to extend competitive athletics to as many students as possible, it embraces 18 sports.

For the boys, there are football, soccer, cross-country, rifle, basketball, wrestling, bowling, crew, baseball, lacrosse, track, tennis, and golf. And for the girls, there are field hockey, swimming, basketball, lacrosse, and tennis.

As you can well imagine, this type of program calls for a tremendous amount of equipment. And wherever large quantities of equip-

ment are concerned, there's a clear-cut need for an efficient system of filing and maintenance. Without careful supervision, the inventory will rapidly deteriorate—at a considerable cost to the athletic budget.

Since conditions vary from school to school, there are probably as many systems of management as there are schools. At Lower Merion, the total responsibility for the equipment is vested in one man, called the supervisor of athletic equipment.

We feel that a full-time specialist offers the ideal solution to the problem. Not only does he eliminate duplication of responsibilities, but he takes the load off harassed teachers. Schoolmen who teach five or six hours a day and coach two or three hours more shouldn't be harassed with additional burdens.

The equipment supervisor or manager should feel that each and every piece of equipment entrusted to his care is a personal responsibility, and should make every effort to insure its return at the close of the season.

Where this policy is adhered to, a substantial saving of money will be effected. This will manifest itself in an increase in the equipment on hand and a subsequent decrease in the purchase of replacements. I consider this the most important aspect of my position at Lower Merion.

A detailed filing system is essential to assure maximum efficiency, and for this work I use an equipment book distributed by one of the large medical supply companies. Each boy must sign for all equipment issued to him. If he fails to return the equipment at the end of

*(Concluded on page 49)*



Drying cage in heavy use following an away game.



Laundry room showing washer, extractor, gas dryer.





## HOW

Fond du Lac (Wis.) H. S.'s fine track is cross-drained every 30' with 4" cement tile set 15" below surface. This tile is covered with 12" of gravel and 3" of loam. Cross tiles are connected to a 6" lateral drain pipe under center of track, and catch basins are placed every 50' at curb. Track itself is a full 1/4-mile in circumference with curves built on a 100' radius. A 140-yard straightaway 24' wide is on north side, while east curve and south straightaway are 18' wide. West curve is 21' wide, allowing 6 lanes for 220-yard dash and hurdles. Curb is concrete, 24" deep, flared at bottom.

**I**N SELECTING a site suitable for track and field facilities, major consideration must be given to the proposed size, accessibility for athletes and spectators, topography, and soil composition.

The size of the area depends upon the sports program contemplated. Usually a running track is built around an area which can be used for football, baseball, and other sports activities. Because of this, the field area should be readily accessible from the school, gymnasium, or field house so that the athletes' training and showering quarters needn't be duplicated.

The area also should include space for parking facilities, bleachers or grandstand, and adequate road approaches to provide easy traffic flow.

Preferably, the field should run north and south. This helps prevent sun glare which might handicap competitors both in the running and field events. In the field events, where the approach is not against the sun, the broad jump and pole vault pits can be located in the center to provide approaches from either direction.

Consideration also must be given to selecting an area with natural protection from excessive wind. Direction of the straightaway races is influenced by this decision since all races should finish on the same side (prevailing wind direction).

Since the cost of track construction will depend in part on the original condition of the site and other variable factors, it's advisable to engage the services of an architect and a civil engineer.

The engineer can best determine the amount of grading necessary to make the available area suitable, ascertain the cost of installing an adequate drainage system, and estimate the over-all costs based on type, width, and depth of track bed, type of curb, and whether or not a 220-yard straightaway is contemplated.

**Drainage Requirements:** Drainage must be considered in the building of a running track. Drainage problems vary with the immediate surroundings of the field and its subsoil. Land that is sandy will require less artificial drainage than heavy clay subsoil. Where artificial drainage is required, storm sewers and catch basins should be placed inside and outside the track

itself. Climactic conditions in various parts of the country (arid regions, rainy sections, etc.) dictate drainage needs and type of construction.

**Surface Drainage:** Good surface drainage in the surrounding area is the most effective method of handling rainfall. Catch basins should be placed every 100', both inside and outside the track curbs, and should be connected to the lateral drains by a 4" or 6" tile or iron pipe that empties into a storm sewer.

The purpose of the outside drains is to prevent water outside the track from flowing onto the track. The purpose of the outlets, or holes, along the inside curb is to permit speedy drainage of the track itself.

These outlets should be a trifle below the surface of the track and should be covered by a heavy wire screen or grating. Even if finances are limited, it's wise to invest in a carefully planned surface drainage system and a good sprinkling system with hose taps to supply an even amount of moisture.

**Subsurface Drainage:** The natural drainage of the ground area should be preserved wherever possible. If the surface drainage of the area enclosed by the running track and the area outside of the track is adequately cared for, there's little need for sub-



By THOMAS E. JONES

Track Coach Emeritus, University of Wisconsin

# TO BUILD A TRACK

surface drainage of the track itself. Water which seeps through the body of the track makes it faster.

## LAYING OUT A TRACK

The most practical track is a circular one measuring four laps to the mile, having a 120-yard straightaway on one side where the 100-yard dash and the 120-yard high hurdles may be run.

A 220-yard straightaway is desirable, though not essential. Without it, the 220-yard dash and 220-yard low hurdle events must be run around a curve. In European meets and in the Olympic Games, the longest straightaway race is the 110-meter high hurdles. The 220-yard and 200-meter dashes always are run on the curve, while the 400-meter and 440-yard dashes are run around two turns.

The ideal track usually is laid out with approximately a 100' radius for the curves. Actually, the radius of the curve of an official quarter-mile track can vary anywhere from 90 to 120'; most range from 100 to 110.

The actual layout will have to conform to the existing area in which the track is to be placed and to the area allowed for accommodations outside the track.

The first step in laying out a track is to determine the radius of the curves which will best fit the area. Take into account that track measurement is based on the inside curb and that the width of the track must be added to that measurement.

Having determined a radius point at one end of the field, swing a steel tape around in a complete circle (see diagram). To find the distance from one radius point to the opposite radius point, use the following formula:

$$2R \times 3.1416 \text{ (R is the radius of one curve)}$$

This gives the distance around both curves. Subtract this number from the total length of an official quarter-mile track (1320') and divide by two to obtain the distance required on each

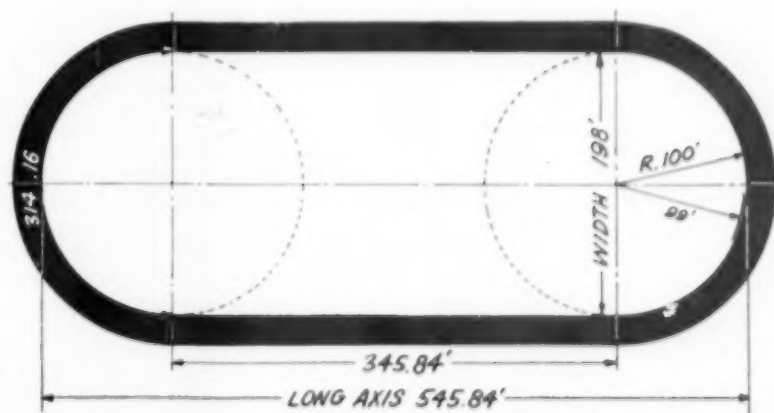
straightaway and also to determine the opposite radius point (see diagram).

Example: Assuming the radius is 100', and, using the formula  $2R \times 3.1416$ , the total distance for the curves is 628.32', or 314.16' on each curve. This number subtracted from 1320' leaves 691.68'. Divided by two, this equals 345.84', which is the length of each straightaway and also the distance between the two radii points.

Official tracks are measured so that the inside curbs are set in 12" from the actual radius. Thus the distance from one straightaway curb to the opposite curb would be 198' (see diagram) while the track measurement actually would be 200'.

The shape of the track will vary with the length of the radius selected. A long straightaway is considered an advantage because a straight course is easier to run than a curved one. In general, the amount of curved running and straight running should be approximately the same distance. A radius of 105.4', will make the length of each arc correspond approximately to the length of each straightaway (330').

THIS wonderful treatise on the construction of a track and field plant is reprinted from Tom Jones's magnificent 80-page booklet, "How to Build a Track." Representing some 50 years of study and research, it's probably the only work of its kind. In addition to detailing the actual construction, the author—one of the truly great figures in American track—offers exceptionally valuable sections on conducting track meets, construction and care of indoor tracks, minimum requirements for high school tracks, and diagrams and specifications of outstanding Olympic, college, and high school tracks. The book may be obtained for \$2.25 from the Bookstore, University Extension Division, The University of Wisconsin, Madison, Wis. This excerpt is reprinted by special permission of the Editorial and Communications Services.



Determining the radius of the curves which will best fit the area.

**NOW, USE THIS  
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FOOT  
WITH SANI-MIST  
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In a standard outdoor track, the width of the straightaway for the sprints and hurdles should be 25 to 30' whenever possible. NCAA and Olympic tracks specify eight lanes for the final races.

The width of the curves and back straightaway should be at least 16'. Where half-mile relays are contemplated, the width should be 24'.

Banking the turn isn't necessary on a quarter-mile track. Banking causes the surface water to wash the cinders and clay toward the curb. Most of the tracks now are level on both straightaway and curve.

#### BODY OF THE TRACK

Prior to the construction of the body of the track, a careful study should be made of local conditions—soil bed, temperature, rainfall and other weather conditions, and availability of materials.

The total depth of the material used in constructing a track is determined by the amount of money to be invested. Tracks vary in depth from 8" to 36". Some tracks, considered very fast, have no greater depth than 8". However, the best college tracks are from 15 to 18" in depth.

**Kind and Relative Amount of Material Needed:** Using 18" in depth as standard, here is a construction table:

1. First excavate track area to a depth of 18".
2. Then apply the *First Layer* (rough fill) on the bottom, using 4 to 6" of crushed rock, limestone slabs, slag, broken brick, or coarse gravel. Level this to a uniform thickness and roll with a heavy roller.
3. The *Second Layer* of material should be 6" in depth and should consist of large cinders and clinkers (as they come from the heating plant). These should be raked, leveled, water-drenched, and rolled with a 5- or 6-ton roller.
4. The *Third Layer* should be 4" thick and composed of fine cinders, screened through a  $\frac{1}{4}$ " mesh. This layer should be raked level, soaked thoroughly, and rolled. A lighter roller (about two tons) should be used on this layer.
5. The *Top Dressing* is the most im-

portant factor in track construction. Many good tracks have been spoiled by lack of knowledge and care in mixing top surface materials. Most tracks require some binder-type material added to the cinders.

Here are the best types of top dressing:

1. *Ashes from soft coal.* These consist of a 3" layer of sifted soft coal or coke ashes, mixed with fine sifted cinders through  $\frac{1}{8}$ " mesh in the proportion of about three of cinders to one of ashes.

This type of top dressing has been used satisfactorily by the universities of Illinois, Wisconsin, Chicago, and Drake for the past 20 years.

If this surface is laid in the fall of the year, winter snows will turn the ashes into a binder for the cinders. However, if the surface is put on when the track is needed for immediate use, it should be thoroughly drenched.

This type of surface requires daily wetting or spraying with sodium chloride. The advantages of using a soft coal ash surface rather than a screened cinders and clay mixture are that it's never sticky after a rain; packs more readily; doesn't get hard and bake; and requires less care since weeds won't grow in it.

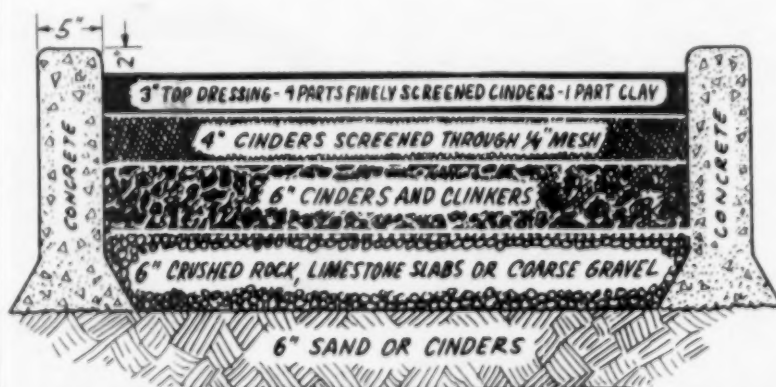
2. *Clay and cinder mixture.* This type of top dressing should be a layer 3" deep, made up of "sparks," or front-end cinders (if obtainable), and clay. The mixture should be four parts cinders and one part clay; both sifted through a  $\frac{1}{4}$ " mesh, and mixed.

To achieve an even surface, the mixture should be carefully raked in and floated when spread on the track. It must be mixed carefully for an excess of clay will cause the formation of a non-porous shell which will retain the water on the surface and thus prevent downward seepage into the body of the track. Proper moisture makes a track faster if the track is not sticky on the top.

Note: Gravel-crushing machines, which can be set to crush cinders and clinkers to any size, are in general use in the U.S. at present.

3. *Cinder and black loam mixture.* Many of the most recently con-

(Continued on page 58)



Kind and relative amount of material needed in standard 18" deep track.

Every one is *Tailored-To-The-Job!*



Official Rectangular Backboard. 1/4" Herculite tempered glass cushioned in Neoprene. Sturdy metal frame. Medart also makes a ruggedly framed, thick ply. wood rectangular backboard, a favorite for practice.



## MEDART

### BASKETBALL BACKSTOPS

First, they're built right — rugged, durable, rigid, vibration-free — to provide the finest possible accurate, quick-bank playing surface.

Next, they're properly erected. Structural conditions are analyzed by engineering experts; then playing requirements and other factors, including budget, are considered to be sure the *right* backstop is selected. Finally, each is "Tailored-To-The-Job" and expertly erected to guarantee a completely official and satisfactory installation.

Backstops may look alike but it's the many extra years of trouble-free, maintenance-free service that proves every dollar invested in Medart Backstops is a dollar better spent.

Write For Catalog



Official Fan-Shaped Backboard. Herculite tempered glass cushioned in Neoprene. Double angle welded frame. Will replace any Medart fan-shaped steel backboard. (Not shown) Medart's famous Official fan-shaped steel backboard built of a single 17-gauge shell channel reinforced.

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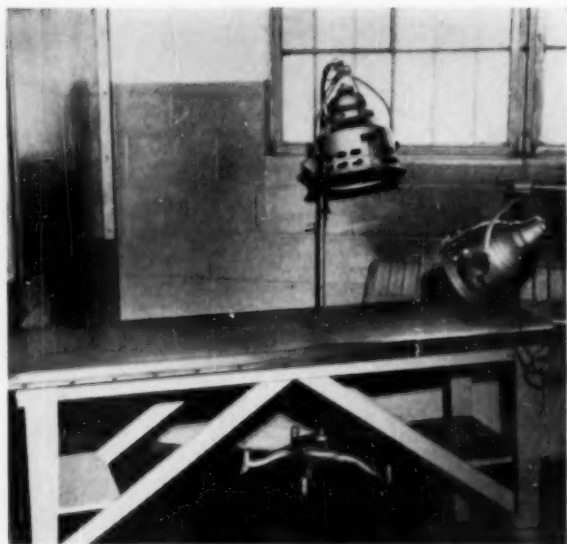
#### POWER OPERATION WITH REMOTE CONTROL

Lowers or raises backstops smoothly, quietly, swiftly, safely. Eliminates laborious operation with winch. Key-operated control switch mounted on gym wall or other convenient location. Power operator can also be installed on most Medart suspended backstops already in service.





This horseshoe-shaped table triples the number that can be accommodated by the whirlpool at same time.



Rubbing table is 32" high with a 1" foam rubber padding on top and surfaced with a red plastic cover.

## DO-IT-YOURSELF EQUIPMENT

**F**EW high schools in the nation have the wherewithal to purchase everything they need or would like to have for their athletic program. The average budget is rather lean in nature, and the athletic director is forced to cut corners in order to make ends meet. As a result, he must eschew almost everything but the bare necessities.

The imaginative administrator or coach won't give up so easily. By exercising his gray matter, he can come up with some excellent home-made substitutes. Fitzgerald High has been extremely fortunate in this respect. Coaches who've seen our home-made equipment have been so impressed that they've urged us to pass along the details to other schools.

Before doing so, a word of caution is in order. If you have the money, don't hesitate to buy the commercially manufactured product. You can't beat the real thing for value and safety.

If you're strapped, however, don't hesitate to improvise. A little imagination and a little effort, plus the cooperation of the school workshop, can produce some real "winners."

**HELMET RACK.** Most coaches will agree that one of the big problems faced by every school is that of properly storing and caring for athletic equipment. In most schools, space is very limited and as a result some of the athletic items take quite a beating.

One of these items is helmets. Where and how to properly store them is always a problem. After many years of wrestling with this poser, I've come up with a very satisfactory solution.

Our Helmet Rack is made up of a full 4 x 8 sheet of  $\frac{3}{4}$ " plywood. Through this plywood, we drill five rows of  $\frac{3}{4}$ " holes, 11" apart. In these holes we insert 2' pieces of  $\frac{3}{4}$ " dowel rods—letting the dowel rods protrude an equal distance on either side of the plywood.

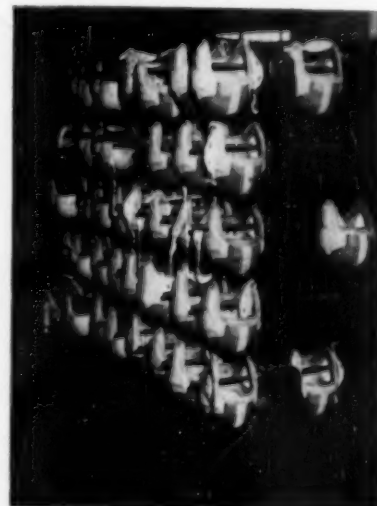
Next we cut out 80 pieces of  $\frac{1}{2}$ " plywood about 2" square and drill a  $\frac{3}{4}$ " hole through the center of them. We then push them over the dowel rods and glue them to the  $\frac{3}{4}$ " plywood, forming a collar around the dowels on either side of the board to keep them from tipping.

Then we add an upright piece at

(Continued on page 56)



Maple plywood track-record board.



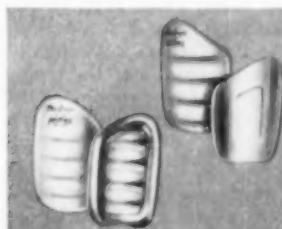
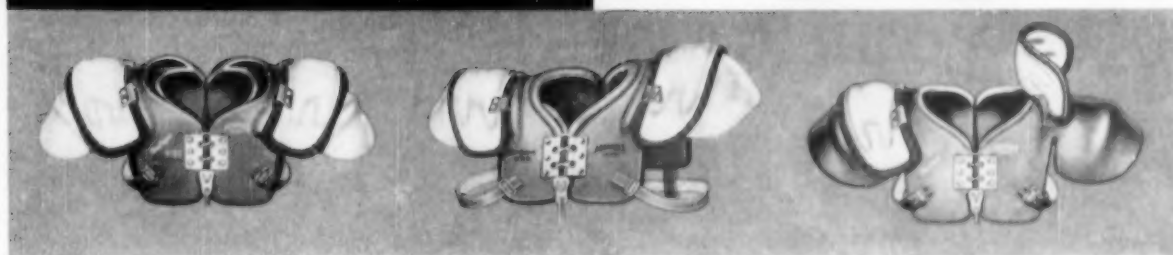
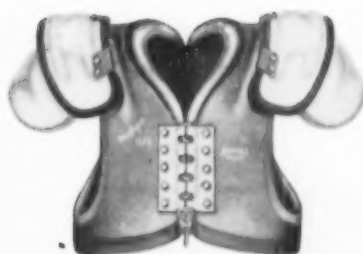
Plywood rack holding 80 helmets.

By **PAUL SMARKS**, Athletic Director

Fitzgerald H. S., Van Dyke, Mich.; President, Michigan H. S. Coaches Assn.



# MacGregor ABSORBLO



**ABSORBLO—The greatest single forward step in the history of protective equipment.**

Available from . . .



**ABSORBLO is a MacGregor exclusive.**

**Maximum Protection • Lightweight • Waterproof • Durable  
Easy to clean • Low Maintenance • Mildewproof • Comfortable**

THE MACGREGOR CO., CINCINNATI 32, OHIO • Football • Baseball • Basketball • Golf • Tennis



## TAPE-RECORD YOUR GAMES!



**T**APE recording offers a new, exciting, and hugely proficient way of scouting opponents and keeping statistics. Just imagine what a football or basketball scout can do with a recorder!

Instead of writing like crazy for 40 minutes or more, he can sit back and calmly articulate every individual and team detail he sees. Since a person can speak far more rapidly than he can write, much more information can be gathered in this manner.

The final report then becomes a simple matter. At the end of the game, the oral impressions may be transcribed into type; and/or the tape recording may be presented to the coach for play-back purposes. The tape supplemented with the essential diagramming thus constitute a very tidy scouting package.

Insofar as statistics are concerned, the tape recorder offers a stimulating way of dramatizing them for both the coach and player. The coach's problem with statistics always has been to make them meaningful to the players, and the tape recorder comes in very handy in this respect. Almost every school owns at least one such device that can be borrowed by the athletic department.

The following procedure has worked very satisfactorily for us in basketball (and may be adopted for football just as easily). After we secured the tape recorder for our games, it was important to find an informed and interested narrator who could follow the play-by-play with emphasis on the following points—the name of each player, rebounds, assists, shots, held balls, recoveries, and bad passes.

We were fortunate in having an interested parent whose hobby was announcing. If you're not so lucky, a talented student announcer or a faculty member familiar with the

game might be likely prospects. In high school athletics, there never seems to be a shortage of willing workers familiar enough with the sport to be helpful to the team.

After the game has been recorded on the spot, the tape is played back a day or two later in a chalk talk. It's amazing to see how each team member enjoys reliving the game. It becomes a personal thing with him. It's only human nature to want to hear about oneself, and each boy records his own individual statistics with great interest.

After he has completed his own chart, he compares it with the master chart compiled by the coach beforehand. He then puts this record into a *personal file envelope*. This enables him to compare each performance with previous games. At this point, valuable conclusions can be drawn by both coaches and players, and plans for improving individual and team weaknesses can be discussed.

Thanks to this accurate coverage, we're also able to award annual

trophies for outstanding rebounding, best percentage shooting, best defensive play, etc., without guessing. So often it's only the leading scorer who is honored, while other equally important team members are grossly overlooked. Our annual trophy awards provide a natural incentive toward improvement in every aspect of play.

Along with the taping of the game, a plain shot chart is kept so that a quick half-time analysis is available.

Besides representing a more dramatic way of presenting cut-and-dried statistical information, tape recording has other values to offer. The recording of the "big" game of the year or some particularly close or significant game can be replayed at service clubs or even over the air in smaller communities. This has been done successfully in our area.

Also, where it's difficult to record statistics because of all the noise and excitement, the tape recorder enables you to replay the game as many times as needed to assure absolute accuracy and to reveal certain details that may have been forgotten or overlooked.

If statistics are valid, they should be made as meaningful as possible. Previous to tape recording, our statistics were posted on the team bulletin board after due discussion with the squad. It's doubtful whether they were nearly as interesting used this way.

Since employing this recording method our overall statistics have improved a great deal. Our new method has stimulated the boys to improve their particular game and, in so doing, has improved the play of the entire team.

Taping games has been a real interest-builder in the entire community as well. Try your games "on the record" and see if statistics can't be more fun for you and your team.

### TIPS FOR THE NARRATOR

1. Try to keep nomenclature uniform in each game.
2. Call players by name and number.
3. Be specific on who shoots, rebounds, assists, passes, recovers, and who is involved in jump balls.
4. Become familiar with basketball terms such as lay-in, dribble, pivot, screen, zone, man-to-man, hook, etc.
5. Indicate position of shots taken: (a) close in, (b) medium, (c) long (30' or more).
6. Be familiar with current rules and include fouls called and for what.
7. Try to keep voice interesting to hold interest.



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**IN YOUR SCHOOL, PLANT OR RECREATION PROGRAM**

**FREE TOURNAMENT KIT . . .** Get all the advantages of full sports participation with a Harvard Table Tennis Tournament. Just return the coupon below! Your FREE tournament kit is filled with everything required to run an exciting tournament. It contains two colorful Harvard Table Tennis Teachers with instructions and tips from champions; photos and diagrams of game-winning techniques; official U.S.T.T.A. rules and sections on leagues and tournaments. You also get 3 Harvard Tournament Charts, a complete tournament publicity program and a tally sheet which entitles you to valuable Harvard Gold Medals.



**HARVARD GOLD MEDALS . . .** Your men's and women's singles champions will prize these gleaming gold medals that are FREE with Award Certificates when you complete the tournament tally sheet. Mail the coupon below . . . today!

*Harvard* **TABLE TENNIS EQUIPMENT OF CHAMPIONS**

**HARVARD TABLE TENNIS COMPANY**  
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Gentlemen:

In order to run a table tennis tournament please send us the FREE Harvard Tournament Kit.

SCHOOL OR ORG. \_\_\_\_\_

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POSITION \_\_\_\_\_

STREET & NO. \_\_\_\_\_

CITY \_\_\_\_\_ ZONE \_\_\_\_\_ STATE \_\_\_\_\_

We plan to start our tournament on \_\_\_\_\_ (DAY, MONTH, YEAR)

There will be approximately \_\_\_\_\_ participants. (NUMBER)

We do \_\_\_\_\_, do not \_\_\_\_\_ offer table tennis all year. (CHECK ONE)

Table Tennis is part of our athletic \_\_\_\_\_, recreation \_\_\_\_\_ program. (CHECK ONE)

There are approximately \_\_\_\_\_ in our school or organization. (NUMBER)

## Game-Movie Program for High School Football

**M**Y experience in teaching schoolboy players with movies has been most encouraging. Motion pictures have proved an extremely valuable coaching tool. No better means are available of showing the players their errors and of stimulating them into correcting them.

At present, we're using Du Pont 931A film. We formerly used another brand, and found it quite satisfactory. But we switched to Du Pont when we discovered it has less contrast—that it doesn't drop off so quickly when shooting a team in dark jerseys and on dark spots on the field. We shoot the pictures at 24 frames per second and project them at 16 frames per second, which gives us a semi-slow motion.

The average high school game may be covered with approximately 650 feet of film. That is, if the cameraman will start shooting when the quarterback goes down under center and will stop immediately at the whistle ending the play. When shooting a single-wing team, you may start when the team gets set in "ready" position.

If you want to include all of the penalties and some of the color, you'll need at least 800 to 1000 feet. The 650 feet are suggested as the least amount of film needed to cover the entire action of a high school game. Since our film last season was used by the local television station, we shot about 1150 feet.

Our camera is a Bolex H16. We prefer the Bolex H16 Leader to the Bolex H16 Deluxe because its viewfinder is located on top rather than on the side, as on the Deluxe. Where the viewfinder is on the side, difficulties are encountered in keeping up with the play on long passes and punts, since a sweeping movement is necessary and you're looking across the lens. Almost invariably, you'll go past the ball-carrier as you sweep.

We use a Sytar 2-inch or 50-mm F 1.4 lens, and keep it wide open when shooting a night game.

We hire a professional photographer, Ray Tipton of Tipton Photo Service, Ada, to do our shooting. He usually sets up on top of the press box, which is about 200 feet from the middle of the field.

Mr. Tipton claims that Eastman's new K 100 Camera has one feature that's superior to the Bolex, and that is 40 feet of rewind. The Bolex has only 18 feet. This feature may prevent the camera from running down in the middle of a play.


For projection purposes, we use an Eastman Kodascope Analyst equipped with a reversing control. The projector also has a table-top projection viewer, which may be used on the coach's desk and viewed by one or two people.

Use of the reversing switch offers the best method of analyzing film I've ever seen, and we often run through a play a dozen times in studying the performance of each individual.

The movies are projected on a Radiant Classroom Screen designed for daylight showing. However, a draw-curtain is available for use in shutting out the light when showing the picture to our entire squad.

Another piece of equipment used in this visual aid set-up is a film splicer. The one we're using is a Craig Master Rewind Combination. The rewind will accommodate 2000-





These gym floors are easier on  
the players...easier on the budget

A combination of inherent characteristics gives Kreolite Flexible Strip End-Grain Wood Block Floors the exact features that make for better gym installations.

High resiliency reduces fatigue . . . splinter-proof . . . they are safer . . . easier on players, can take constant abuse.

Kreolite Flooring is easier on the budget because it's economical to install, requires a minimum of maintenance, keeps its new beauty year after year . . . when ordinary floors would have been replaced.

To keep your flooring budget in line, whether for gyms, multi-purpose rooms and shops, get all the facts on Kreolite's money saving advantages. Write today for complete specifications.

**The Jennison-Wright Corp.**  
TOLEDO 9, OHIO

**KREOLITE FLEXIBLE STRIP END GRAIN  
WOOD BLOCK FLOORS**



## A word to the wise...



## FAIR-PLAY FIGURGRAM SCOREBOARDS ARE

### ECONOMICAL

A size to fit your budget. Your maintenance dept. can install. No expensive servicing.

### DEPENDABLE

Built for accuracy; simple, trouble-free operation. 2-yr. guarantee on workmanship and materials.

### POPULAR

Fair-Play's the choice of more than half the schools.



FF-4S—Four sides, perfectly synchronized at all times. Ideal for large gyms and arenas. Just one of many models. Write for Catalog.

**FAIR-PLAY**  
MANUFACTURING CO.  
73 Thayer St., Des Moines, Iowa

foot reels of 16-mm film and the splicer is ideal for the coach's type of work.

At present, we're getting our film developed at the local television station, who develops it for the privilege of showing it on its Sunday afternoon sports show.

If not for this television program, we could have our film back for viewing on Saturday morning. As it is, we usually get the film immediately after it's shown on TV.

Our movie program is costing us about 10¢ a foot, which includes the salary of the cameraman and the price of the film. Developing would cost 2¢ to 2½¢ extra, if not for the arrangement with the TV station. All in all, an 800-foot game film costs us just \$80.

One of the biggest problems in getting the most use out of the film is finding time to assemble the squad for the viewing. We've met this problem by assembling our team at 8 A.M., an hour before classtime. This enables us to show the film without imposing on our chalk-talk time, which immediately precedes our practice field work.

Our film schedule calls for squad viewings (of the previous game) on Monday and Tuesday, at which time we point out the errors and comment generally on the play of the team. We run the film back and forth enough times to ascertain our offensive strategy against the defensive alignments and to see if we adjusted properly on defense to meet the down, distance, field position, etc.

On Wednesday, we prepare for our next opponent by showing the film of last year's game with them. If we've swapped films with our opponents, we'll show them on Thursday and Friday. If such film isn't available, we'll grade the previous week's game.

Grading is done by giving each squad member a sheet of paper and watching him through the action. His efforts on each play are given an evaluation of 0, 1, 2, 3, or 4.

If the player executes only his assignment or just what he's supposed to do, we give him 2. If he fails altogether, we give him 0. If he should do extraordinarily well, such as block someone on the line of scrimmage then hurry to get in front of the runner and get another block, we give him 4.

The coach points out what the player is doing incorrectly and then gives him his grade, which each player writes down on his own paper. We then move on to the next player. Sometimes we'll run through the play four or five times for each member of the team.

**O**UT Oklahoma way, Elvan George is generally considered the Bud Wilkinson of school-boy football. Since 1950, his Ada H. S. teams have won 75 out of 83 games, and copped state crowns in 1951, 1952, 1954, 1955 and 1956.

The papers are then taken up and the total score divided by the number of plays. The final step is to post the average scores on the bulletin board. This is a very effective method of teaching. But it does require considerable time.

We distribute our films to Booster Clubs as part of our program. These showings, however, don't create as much interest as the TV showings. The latter is tops as an interest-stimulator. But, you may wonder, don't they give our future opponents an opportunity to scout us? Yes, but I don't believe it works to any great disadvantage.

However, there's a difference of opinion on this score and some kind of ruling on this problem may be made next season. Since our previous opponent can also be scouted in this manner, we'll probably be asked to drop the TV show—even though I feel that it doesn't hurt us at all.

## FIRST-AID ROOMS

**F**IRST-AID rooms should be located in close proximity to the dressing facilities for physical education and athletics. In connection with these rooms, attention should be paid to the need for wide doors and convenience for ambulance service.

The primary purpose of these rooms is to provide first-aid services for participants in the physical education program and athletic programs. They must also be used to serve those in community recreation activities. Separate first-aid facilities should be provided for each sex.

These rooms should have the following physical characteristics: a minimum of 200 square feet; floors and wainscot of ceramic or quarry tile; adequate heating, lighting, and ventilation; electrical outlets to serve the equipment normally used in these rooms; hot and cold water connections for general use.

Toilet facilities should be available to these rooms. A first-aid cabinet, cots, and tables are some of the special requirements.

—Planning Facilities



# athletic tape

by **SEAMLESS**

**goes to the olympic games**

★ LONDON 1948

★ HELSINKI 1952

★ MELBOURNE 1956

Again selected for use by the United States Teams at the 1956 Olympic Games in Melbourne, Pro-Cap is the only athletic tape containing zinc propionate and zinc caprylate. These exclusive additives allow trainers to do a continuous and effective job of strapping without irritating the skin of their athletes.

★ Little or no skin irritation or itching.

★ Little or no deposit—sticks quickly and removes cleanly

★ Better adhesion—doesn't creep or curl at edges.

★ Greater strength and support.



ATHLETIC GOODS DIVISION

**THE SEAMLESS RUBBER COMPANY**

NEW HAVEN 3, CONN., U.S.A.



Photo by Hans van Nes

Dug out of a rocky hillside, this gym has a roof supported by laminated trusses, air filtered by four

heating units, lighting provided by 500-watt incandescent fixtures, and six rows of retractable seats.

## Fieldston's Windowless Gym

By CLARENCE A. MILLER

*Athletic Director, Fieldston School, Riverdale, N. Y.*

**T**HE past October saw the fulfillment of our long-felt need for a second gymnasium to permit greater flexibility in the scheduling of classes and to further implement our policy of extending athletic opportunity to all.

Fieldston is a coeducational country day school of 600 students covering the 7th through the 12th grades. Located in the Riverdale area of New York City, its campus includes playing grounds for varsity and junior varsity football, soccer, and girls' hockey.

The original gym, built in 1928, provided for basketball practice, while the swimming pool has been used by boys and girls throughout the winter months. However, space for intramural sports and informal games has proved far from adequate.

Our new brick gym, 80' x 100', will solve this problem by providing a substantial increase in the school's indoor athletic facilities. It's planned

to serve the needs of both boys and girls, though many more boys than girls will use it, since most of the girls' athletic program will be kept in the older gym.

The new gym was designed by two of the school's alumni, Julian and Richard Roth of the architectural firm of Emery Roth and Sons. Erected by the Gotham Construction Company at a total cost of about \$210,000, the building represents interesting solutions to special construction problems. It had to match the adjacent auditorium building and fit into the general plan of the Fieldston campus, built around an open, sharply sloping quadrangle.

The location chosen was a rocky hillside out of which space was dug, so that two walls are almost fully enclosed. A third wall is shared with the auditorium, and only the front entrance wall is open.

The architects capitalized on this situation by designing a windowless gym which avoids the problem of

competing teams having to face strong light. Lighting comes from 29 500-watt incandescent pendant-hung fixtures for the main court, and an additional four 500-watt fixtures for each of the three cross-courts. Twelve 200-watt incandescent fixtures light up the aisles. The effect is that of sunlight overhead, casting no shadow, with the light source invisible to the audience.

Air is filtered and tempered by four heating units into which outside air is drawn by fans. As the air enters, it passes through a fiberglass filter and thence through steam coils which warm it.

The main gym, floored with Appalachian rock maple, provides a standard-size basketball court, 84' x 50', divided into three cross-courts for practice. The walls are of masonry on an angle iron base, and the roof is supported by laminated trusses of Douglas fir, which were

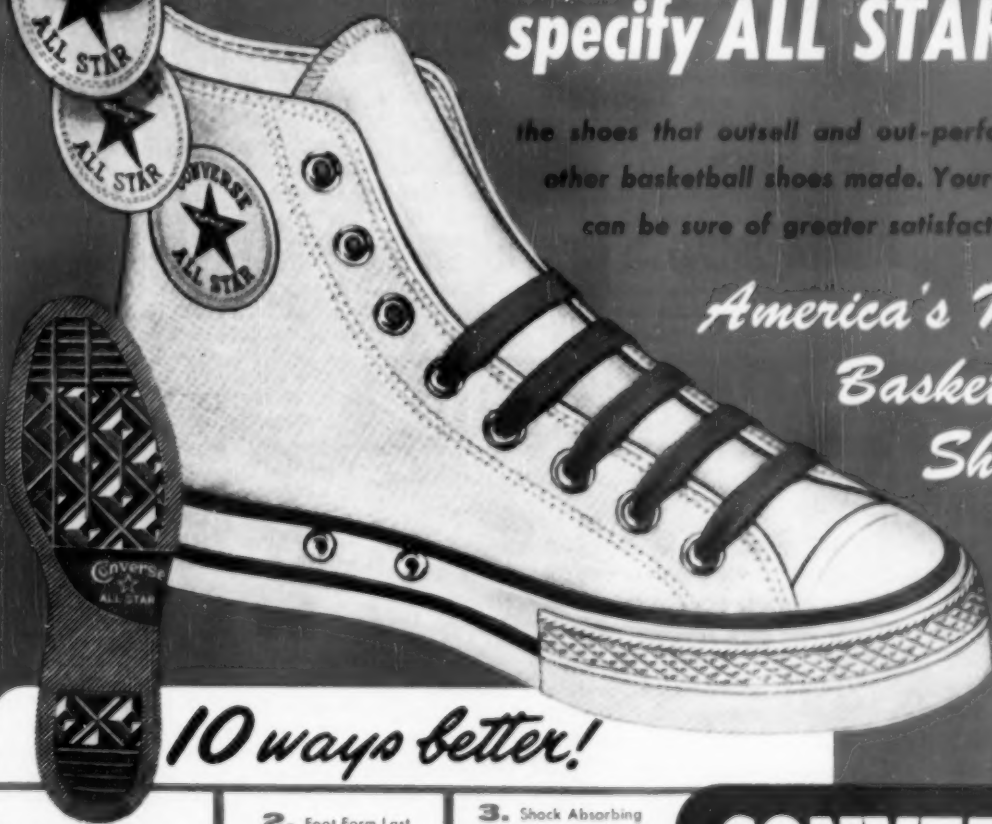
(Concluded on page 57)



## For better Fit-Comfort-Traction... specify ALL STARS-

the shoes that outsell and out-perform any  
other basketball shoes made. Your players  
can be sure of greater satisfaction with

*America's No. 1  
Basketball  
Shoes!*



*10 ways better!*

**1.** Lightweight for Speed

**2.** Foot Form Last  
for Fit and Comfort

**3.** Shock Absorbing  
Full Length Sponge  
Insole and Arch Cushion

**4.** "Peg-top" Upper  
Gives Real Support  
Without Binding Ankle

**5.** Loose Lined,  
Cool Breathing Army  
Duck Uppers

**6.** Under-Stitched  
Web Tape Backstay  
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**7.** Rugged  
Protective Toe Guard

**8.** Double Sole  
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**9.** Non-Marking  
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# CONVERSE

*Chuck Taylor*

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**Extra Wear  
in Every Pair**

**Wigwam  
Socks**

**for every sport!**

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Nywool — Wigwam's sensational new blend of 85% wool with 15% nylon reinforcement throughout available in No. 632 only.



**The Sizes go  
by the COLOR  
in the Toe**

Sock Size	Thread Color
9	Black
10	Green
11	Red
12	Blue
13	Orange

 Soft, springy, absorbent Wigwams provide the foot comfort needed for top performance. No binding, bunching or chafing . . . they're STA-SIZED — won't shrink below the knitted size. At leading dealers everywhere.

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**FOOT HUGGERS**  
E-L-A-S-T-I-C-I-T-Y

the new sport sock that stretches  
to fit any foot size 10 to 13.

**HAND KNIT HOSIERY CO.**  
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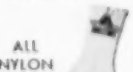
**PART WOOL**  
(Also available  
in all cotton)



**COLOR TOP**



**CUSHION FOOT**



**ALL  
NYLON**



## Get the Job Done with a Student Work Party!

By **JOEL W. CARTER**, *Ensign, USNR, Fort Amador, C. Z.*

**W**HEN there was a big job to be done, our forefathers often turned it into a social event. Events like the corn-shucking bee and the barn-raising not only enabled some family to quickly finish a huge task, but furnished an occasion for much gayety and conviviality.

While this idea of combining work with pleasure isn't as widely used today, it can be adapted with profit by any enterprising coach or athletic director. A big student work-party can, if properly organized, offer an enjoyable means of quickly finishing a job that the athletic budget might not otherwise be able to afford.

It can be used either for a single big project like sodding an athletic field, or for a multitude of little jobs in a general clean-up or maintenance day.

The basic idea of a work-party calls for an all-day session followed by a big dance or other social event in the evening. The major part of the work is accomplished in the morning so that a grand picnic spread can be held at noon, with the food prepared and donated by the girls of the party. The long leisurely lunch period is coupled with a social period of singing, contests, dancing, or games.

The job is finished up with a shorter work period in the afternoon, and the participants return that evening for a hayride, dance, weiner roast, watermelon cutting, square dance, or the like. Throughout the day, the work is made pleasant by music, frequent breaks, snacks, and contests.

The advantages of such a work-party are apparent. Since all the needs of the party are donated and the tools are all borrowed or furnished by the participants, the only cost is that of the supplies (paint, nails, etc.). The party also serves

to improve school spirit and to give the students added pride and respect for their athletic facilities since they've helped prepare or maintain them.

An athletic work-party can be held any time of the year, but late summer is a particularly suitable period. Many students have time on their hands, the vacation is beginning to pall and a get-together with all the school gang will be enjoyed. At this time, it can be used to get the athletic facilities ready for the coming school year.

### PRIME REQUISITES

There are two musts for an athletic work-party:

1. Every part of the event must be planned and organized in minute detail. Every needed item must be at hand, and the organization must be flexible enough to handle the unexpected eventualities that always occur when working with large numbers of people. Unless the planning is thorough, a work-party can become a comic opera of confusion and apathy.

2. It must be enjoyable. There must be sufficient entertainment and such a pleasant atmosphere that every participant enjoys the occasion and doesn't feel that he has simply donated a day's labor to a worthy cause. Otherwise, the quality of the work will suffer and the students won't want to repeat the work-party in the future.

### PRE-PARTY PLANNING

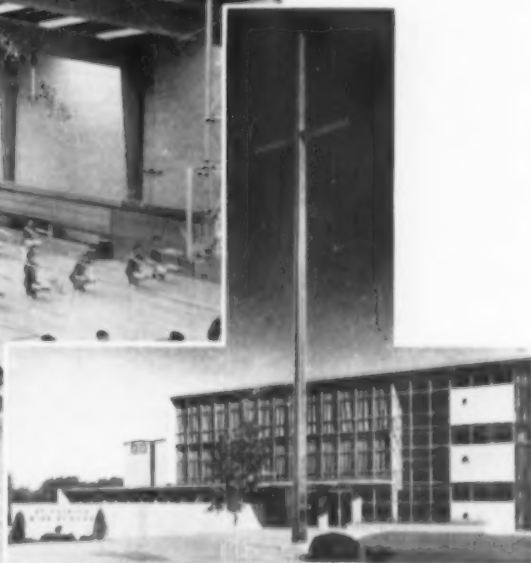
The coach must have a group of students to assist with the advance preparations. If the work-party is to include the entire student body, a small group such as the lettermen's club or an athletic team should sponsor it.

If the party is for a large organized group (e. g. the sophomore





St. Patrick High School, Chicago.  
Belli & Belli, A.I.A., Chicago,  
Architects. Photos by  
Carl Ulrich, Inc., Chicago.



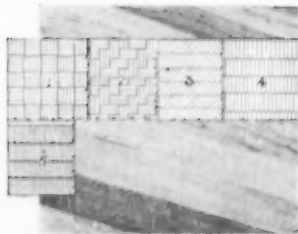
Modern...as its window walls  
and cross of stainless steel



EVER  
MODERN

"foot-friendly"

## NORTHERN HARD MAPLE



Beauty! Variety! Versatility!  
MFMA Northern Hard Maple offers  
design resources almost endless.  
Regular strip and assembled block and  
pattern design, for laying in mastic,  
directly over concrete sub-floor.

Deservedly, you'll agree, this splendid and truly modern school received the Honor Award for 1955 from Chicago chapter, AIA. One thought-provoking editorial comment marks "the total absence of materials which will not withstand secondary school usage without repeated maintenance." And surely this observation holds true of the playcourt area in the Athletic Center building (pictured)! For here the sinewy toughness, the resiliency and the bright, genial warmth of Northern Hard Maple faces up to the multiplied millions of care-free teen-age footfalls which will be its lot for years to come. Virtually unanimously, athletic coaches and physical education authorities agree that no other flooring, natural or synthetic, measures up to Northern Hard Maple for recreational purposes. It fights scuffs, scars, dents and abrasion. It minimizes shin splints and bruises, sharpens peripheral vision. Maintenance is simple and relatively cheap. And—"there's always a new floor underneath!" See *Sweet's* 13j-MA. Write for latest list of MFMA-approved finishing products.

### MAPLE FLOORING MANUFACTURERS ASSOCIATION

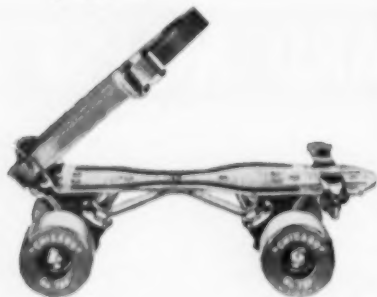
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FLOOR WITH **NORTHERN HARD MAPLE BEECH AND BIRCH**

# START ROLLER SKATING *for* maximum gym use



Roller Skating is the one sport in which all your students can participate. It handles large groups of boys and girls quickly and easily, and does not require a change of clothes. The equipment is relatively inexpensive. Little supervision is needed. That's why more and more schools are making roller skating a definite part of their physical education and recreation programs.



**NEW RUBBER-PLASTIC WHEELS ARE KIND TO GYM FLOORS** These new Duryte rubber-plastic wheels outwear others and are guaranteed not to mar or scratch the floors. "Chicago" has a skate designed for any type of floor surface or finish. Write today for free details on roller skating programs and skating equipment.

**"CHICAGO"**  
*Roller Skates*

4478-A West Lake, Chicago 24, Ill.

class), they must appoint a planning committee. The sponsoring group must work with the coach and do the following jobs:

1. List all the work to be done and figure the man hours needed for each job.
2. List the tools needed and acquire those that cannot be furnished by the participants.
3. Issue invitations in person or by telephone and make a list of those who accept.
4. Assign particular tools to be brought by each boy and notify him. Advise everyone to put his name on the tools they bring.
5. Assign each person to a work team and appoint a leader. These units should consist of four or five students who should work as a team throughout the day.
6. In making the work assignments, consider the man-hours needed and the number of people who can work together without getting in each other's way.
7. List all supplies needed and have them on hand for the work-party.
8. Get at least one woman to take charge of the food arrangements. (An interested mother or the home economics teachers is suggested.) Give her the list of girls attending and have her assign a dish to be furnished by each. The planning group should then call the girls and give each her assignment and pertinent instructions.
9. Set up an alternate date for the work-party in case of bad weather.
10. If any technical work is to be done, invite a professional tradesman to supervise it, if possible.
11. Decide what type of entertainments are to be used and appoint committees to take charge of them.
12. Publicize the event in the local newspaper. Invite reporters and photographers to cover it.
13. Produce a "plan of the day," giving team assignments, jobs to be done, schedule of activities, procedure for control of tools and supplies, and other useful information. Make a copy for each participant.

## WORK-PARTY ORGANIZATION

During the party, the following arrangements should be expedited:

1. Hold a briefing before the work gets underway.
2. Maintain a central headquarters for controlling the event. Keep a status board showing what jobs are to be done and how they are progressing. Deploy work teams from headquarters and keep a record of what each unit is doing at all times.

## SUGGESTED PROJECTS

Some of the jobs for which a work-party might be utilized include:

1. Painting.
2. Setting out trees and shrubbery.
3. Sodding an athletic field.
4. Fertilizing turf.
5. Putting up fences.
6. Constructing tracks, courts, or diamonds.
7. Setting up bleachers.
8. Building concession stands and ticket booths.
9. Refinishing gym floors.
10. Building benches, lockers and other such items.
11. Terracing and ditching.
12. Repairing equipment and facilities.
13. A general cleanup.
14. Installing a drainage system.
15. Removing sandspurs.
16. Planting grass and flowers.
17. Building walks and roads.

3. Use a loudspeaker for announcements. Play recorded music over the system when it's not being used for other purposes.

4. Have an adequate first-aid station ready.

5. Maintain a central supply desk for all tools not being used and for dispensing supplies. A good accounting system for tools is to have each piece tagged while in the supply room. The tag is removed and signed by the person checking out the tool. When the tool is returned, the tag is again attached. Participants must be urged to return tools as soon as possible to prevent a standstill on other jobs for lack of the proper tool.

6. Several cars and drivers should be available to run errands for unanticipated needs.

7. Make sure water is available constantly. If the work is spread over a large outdoor area, cool water should be taken frequently to each group. Work-breaks with snacks should be held periodically.

8. Have girls work at the easier jobs and arrange for them to drop out of their units an hour before lunch to prepare the meal.

9. Make the lunch period the highlight of the day. It should last two to three hours and be informally organized so that it's both enjoyable and relaxing. Swimming, if available, can be allowed if proper precautions are taken against the possibility of accidents due to cramps caused by eating.

(Concluded on page 64)



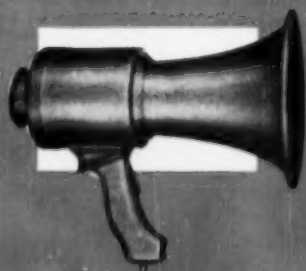
***Make yourself HEARD!***

**—without KILLING your voice.**

**N**ow you can command the attention of individuals or groups . . . up to half-a-mile away . . . without straining your voice! Audio Hailer amplifies your voice 1000 times. It is the **ONLY** electronic megaphone, with a genuine vacuum-tube amplifier. Yet it is completely self-contained, operates on dry batteries, weighs only 5 1/2 lbs.

Used by athletic coaches, band directors, cheer leaders —for bus-dispatching, fire drills, pool and playground supervision, and as a flexible emergency P.A. system. For more details, or demonstration, just clip coupon below to your letterhead.

Audio Equipment Co., Inc.  
Great Neck, N. Y.



**AUDIO  
HAILER®**

**PORTABLE • SELF-CONTAINED  
ELECTRONIC MEGAPHONE**

***Amplifies your voice 1000 times!***

**AUDIO EQUIPMENT CO., INC., Great Neck, N. Y.**

I would like ☐ brochure ☐ demonstration of Audio Hailer

NAME \_\_\_\_\_

TITLE \_\_\_\_\_

SCHOOL OR COLLEGE \_\_\_\_\_

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CITY OR TOWN \_\_\_\_\_ ZONE \_\_\_\_\_ STATE \_\_\_\_\_  
(if any)

# NEW EQUIPMENT

For full details on any or all of these products, check the respective listings under "NEW EQUIPMENT" in the master coupon on page 72.



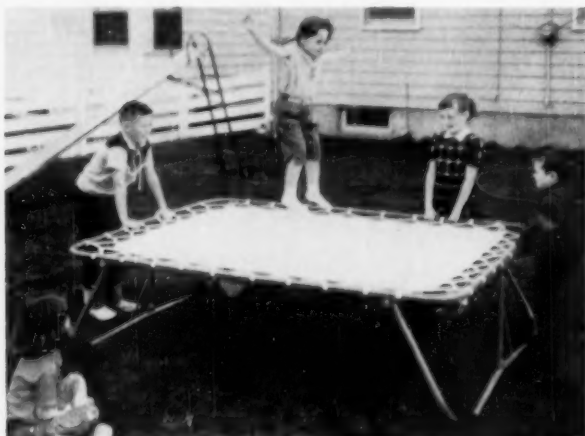
• **BASKETBALL SCOREBOARD.** Designed for small budgets, Naden's N-525 is 72" long, 28" high, with 8, 10, or 20 minute period clock. Electrically operated with 26" dial clock and 4" numerals, it has synchronized clock motor, red sweep hand, and vibrating horn.



• **DEODORIZER.** Aireactor's "Odormaster" is a portable electric diffusing mechanism that amazingly deodorizes locker rooms and similar areas while circulating air at same time.



• **AUTOMATIC PITCHER.** Dedoes' "Varsity" batting practice machine throws 8 or 9 balls per minute. Designed with easy-to-fill hopper, it's built with heavy 16 gauge steel case, weighs about 100 lbs., and is 24" x 24" x 24". Electrically powered, it throws regular baseballs, tennis balls, sponge rubber balls, etc. Inexpensive and simple to operate.



• **THUMPER TRAMPOLINE,** designed for children from 2 to 10 by Nissen, is 60" wide, 6' 8" long, and 24" off floor. Can be quickly folded for storage or transportation, and features all-welded steel tubing, all-nylon bed, rubber cables, rubber-shod legs.



• **POWERIZED BLEACHERS.** Universal's powerized Roll-A-Way bleachers enables one man, without effort, to open or close any section of 10, 15, 20, or more rows in a few seconds, and all sections of the gym in just a few minutes! Equipped with a compact mobile electric power unit that not only speeds up operations but assures an even push or pull over the entire area. Pneumatic tires protect the gym floor.



• **PLASTIC REPAIR KIT.** Containing one of toughest plastic adhesives known to chemistry plus glass fabric for reinforcement, Baer's Reinforced Plastic Kit offers permanent, time saving, economical, and easily applied protective and repair method for all sorts of athletic equipment. Can be applied by anyone at a desk or table. No special tools or experience needed.





U. S.  
MILITARY  
ACADEMY,  
WEST POINT,  
NEW YORK

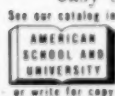
## ... "NISSEN TRAMPOLINES ARE A GREAT HELP TO ALL OUR CADETS"

"At the academy, the Nissen Trampoline is used by all our cadets in the physical education program," says Tom Maloney, "as well as by athletes in the various collegiate sports. Coordination, body control and adaption to emergencies of balance are developed more readily through Trampolining. Our varsity divers use the Nissen Trampoline as much as gymnasts."

### OVER 5,000 NISSEN TRAMPOLINES IN USE TODAY!

Nissen Trampolines\* are playing key roles in well-developed physical education programs everywhere. More than 5,000 schools have them in use today. Available in three styles — Each designed for a specific purpose — Each with the exclusive "flashfold" feature that allows instant folding for easy storage — Each built by Trampoline specialists.

Write for information — Now!



\*REG. U. S. PAT. OFF.

**NISSEN**  
TRAMPOLINE COMPANY  
CEDAR RAPIDS, IOWA, U. S. A.

**NISSEN TRAMPOLINE CO., LTD.**  
LONDON, ENGLAND



**NISSEN TRAMPOLINE CO.**  
215 A Avenue, N. W., Cedar Rapids, Iowa, U. S. A.

Please send new 16-page catalog, illustrating and describing Nissen Trampolines, and name of nearest dealer.

NAME OF SCHOOL \_\_\_\_\_  
CITY \_\_\_\_\_ ZONE \_\_\_\_\_ STATE \_\_\_\_\_  
BY \_\_\_\_\_ TITLE \_\_\_\_\_



**COACH TOM MALONEY**

Gymnastic coach at the U.S. Military Academy, West Point, New York, winning the eastern inter-collegiate team championship seven times — U.S. Olympic Gymnastic Coach in 1952 — and Gymnastic judge at the 1956 Olympic Games at Melbourne, Australia.



**For Efficiency, Economy  
and Lifetime Durability**



**Write for Literature**



**By OTIS BUDD**

*Physical Education Dept., U. of Texas*

## Winning Bulletin Boards

**N**EARLY every issue of physical education periodicals such as *Scholastic Coach* contains exceptionally valuable picture sequences of basic techniques. The wise physical educator or coach, knowing that a picture is "worth a thousand words," will attempt to improve his teaching by making full use of these sequences.

The purpose here will be to suggest a method of presenting this material to the students in a fashion calculated to achieve maximum results.

Often the realities of magazine publication make it necessary to print these picture sequences and their explanatory text in a manner not readily conducive to group instructional use. The practice of printing the analysis in a section far removed from the pictures, represents one such undesirable, if necessary, practice.

Many readers find it tiresome to keep flipping the pages back and forth, and quickly become just "lookers" or "guessers." Even when the text is printed on the same page as the photos, so long as it isn't arranged in caption form under the pictures, youngsters will find it difficult to follow and will resort to "looking" and "guessing."

In this respect, teachers may take their lead from comic books and magazines such as *Life*, *Look*, etc. To compete with these publications, educational material must be made attractive and accessible.

Bulletin boards and similar types of display offer good means of presenting the picture sequences to a class. When possible, some magazines will make an effort to run this material in a manner permitting easy removal for the display board. This is fine. But since it isn't often feasible to print all the sequences in this form and since much good material can be found in old issues, it will still be necessary to adapt the material to assure effective display.

Before going further, let's face the fact that the material printed on the other side of the page will be lost. If this turned-under material is valuable, this is a serious consideration. Another problem is

that of the text and pictures being printed on opposite sides of a sheet.

There's a common remedy for both of these situations. Order extra copies or subscribe for two copies. In either case, the small expense will be adequately repaid by increased teaching efficiency.

After the pictures are clipped out, they can be glued in the desired arrangements for the poster board. In some situations, it may be desirable to arrange the pictures in a top-to-bottom order rather than in the usual left to right sequence.

Experimentation has proven that for many gymnastic and wrestling skills, the horizontal arrangement lends an undesirable sense of motion to some maneuvers. The vertical arrangement best illustrates the relative movements of the parts of the body.

Football series show to better advantage, particularly with regard to the relative positioning of the players, when arranged in a vertical sequence.

When track skills such as broad jumping, hurdling, and stride are illustrated, the left-to-right or right-to-left sequence (depending upon the direction of movement) is preferred.

Next, the captions for the pictures can be clipped from whatever part of the magazine they appear in, and glued in place with the pictures. Guide lines, lightly penciled in, and other such practices will help achieve a more attractive appearance.

The text can be placed under, over, or beside the picture, according to the sequence arrangement and the instructor's discretion. The instructor may also want to supply his own description of the photographs with typewriter or india ink. Space can be left for red-pencil notes by the instructor.

Usually, corresponding numbers are printed on the picture and the text relating to it. This helps you follow the sequence. If this hasn't been done, some system must be devised to avoid confusion. Numbers may be used or, sometimes, arrows pointing in the direction of the sequence are a help to readability.

*(Concluded on page 51)*



*In Baseball  
and Softball*

LOUISVILLE SLUGGER  
BATS  
HILLERICH & BRADSBY CO.  
— — —  
LOUISVILLE, KY.

*one Trade Mark  
is Supreme*

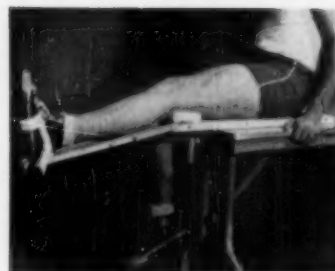


# NEW EQUIPMENT

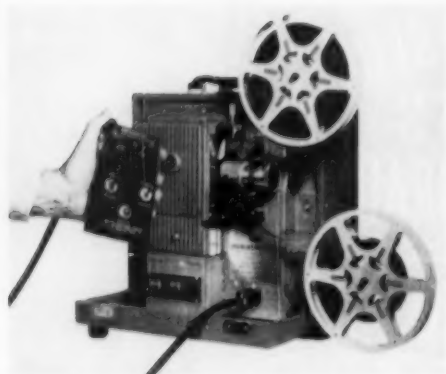
For full details on any or all of these products, check the respective listings under "NEW EQUIPMENT" in the master coupon on page 72.



• **THERMOSTATIC SHOWER CONTROL**, produced by Powers Regulator Co., has only a single dial to turn, automatically maintains desired water temperature. Thermostatic safety limit prevents delivery of water above 110°, protecting bather against excessively hot water. Entire mechanism is housed in unique rectangular chrome finished case.



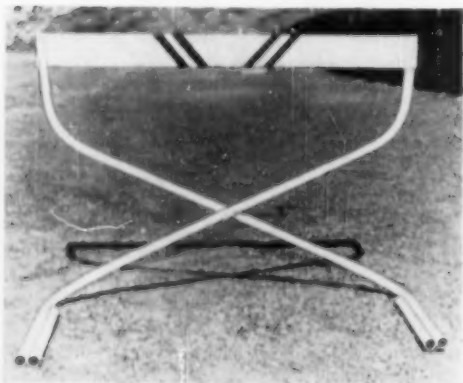
• **KNEE STRENGTHENER**. Logan's therapeutic exerciser utilizes spring resistance for development of strength in prevention or rehabilitation of knee injuries. No heavy weights to pull joint apart, padded for extra comfort, easy to operate.



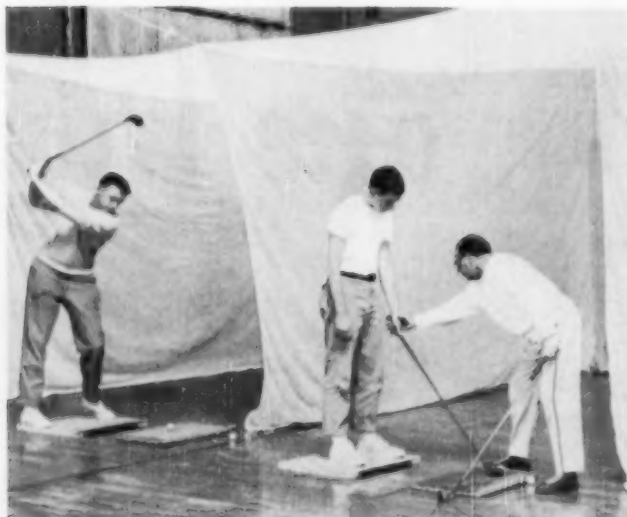
• **COACHING MOVIE PROJECTOR**. Remote control of prolonged single-frame projection at full illumination features L-W Industrial projector for analysis of 16-mm. films. Projection from 6 to 24 frames per sec. can also be controlled from hand-held remote control box.



• **PORTABLE BOWLING SET**. A Bakelite pin and a hollow ball are now making it possible to bowl anywhere! Lightweight pins are 15" high and weigh only 5 oz., but have impact strength and lively resilience. Ball has two-finger gripping holes for both large and small hands. Triangular pin-spotting sheet and portable backstop net (which also serves as carrying case for pins and ball) complete set. Weighs about 20 lbs. and can be carried and stored with ease.



• **RUST-FREE HURDLE**. Ball & Hole's regulation two-stage hurdle is spill-proof rocker type, adjustable in sec. to either standard height. Of rust-free construction, it's fitted with weights quickly adjustable to balance either height. Folds for compact storage.

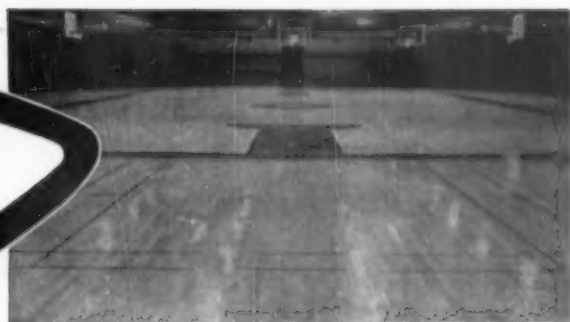


• **MULTIPLE-PLAYER GOLF NETS**. Sterling Net & Twine Co. is now offering 100% nylon weatherproof driving nets designed for simultaneous multiple use—a 16' width for two players, a 24' width for three players, and extra wide nets ranging from 50' to 100'. Nylon deadens sound at impact.



School Officials say . . .

"Basketball is only one of the many  
uses of our gym floors . . . to give  
maximum protection we use  
**SEAL-O-SAN!**"



*The Seal-O-San-safe floor of Western Kentucky State College.*



*The Seal-O-San-safe floor of Western Michigan College.*



*The Seal-O-San-safe floor of St. Rita High School, Chicago, Ill.*



*The Seal-O-San-safe floor of Tazewell, Virginia, High School.*



*The Seal-O-San-safe floor of Guthrie, Oklahoma, High School.*

## *If basketball were all . . . . .*

. . . you had to contend with, floor sealing and maintenance would be easier. You could use almost any non-slippery floor sealer and get by.

But schoolmen everywhere say: "It's a dance tonight . . . banquet tomorrow . . . and basketball Friday. What can we do to protect our floors?"

*Seal-O-San is the answer.* Thousands of schools

have proved to themselves that Seal-O-San keeps floors smooth and glossy (yet slip-proof), *regardless of the activity!* When you use Seal-O-San, your gym floor can be used—*safely*—for a group meeting, dance or other social activity. Then, with simple maintenance, it's again ready for the basketball team! Write us today for complete information and costs.

ASK FOR THIS FREE FOLDER ON  
LINING AND REFINISHING GYM FLOORS.

Architects—See our catalog in Sweet's.



# SEAL-O-SAN

GYM FLOOR FINISH

## HUNTINGTON LABORATORIES

Huntington, Indiana

Philadelphia 35, Pa.

Toronto 2, Ontario

**Proper method of sweeping a gymnasium floor; notice how the brush overlaps on return trip to the starting point.**

## A GYM FINISH THAT'S THE END!

**A** GYM FLOOR, crafted of finest matched maple, fir, pine or beech, is an expensive investment—and the secret of its continued beauty and efficiency lies in the protective treatment you give a thin 1/64th of an inch surface layer. Because of the lateral sawing of lumber, this surface layer, about the thickness of a finger nail, is the factor of concern. Properly treated, it will preserve the whole wood floor.

Where this surface is improperly treated, dirt can easily be ground into the porous cells under a daily sports schedule. Heavy year-around play can result in marring and scuffing; spillage and body perspiration will cause staining, rotting, and a slippery condition, often resulting in injuries to players.

### NECESSARY TREATMENT:

To insure against such damage, a treatment must be used to close all the surface wood cells, binding each of them together so that even moisture cannot penetrate the surface. Such a binder must have a natural affinity to wood. If, after the preparation has dried, it becomes brittle, the finish will crack and chip away

from the surface, leaving the wood fibers exposed.

If oily preparations are used, the playing surface will become slippery and dark. Surface preparations like shellacs, lacquers, and varnishes, that merely coat the surface don't soak deeply enough into the wood to give protection. As a result, dirt accumulates in the pores, layer after layer, blackening the floor and making it both hard to clean and increasingly slippery. After a time, even restoration of the natural color by normal sanding becomes impossible.

Extensive research by floor treatment makers, in close cooperation with flooring manufacturers, has produced specialized products that now make it easy to give your team the finest playing surface—a gym that assures fast, accurate, eye-appeal play.

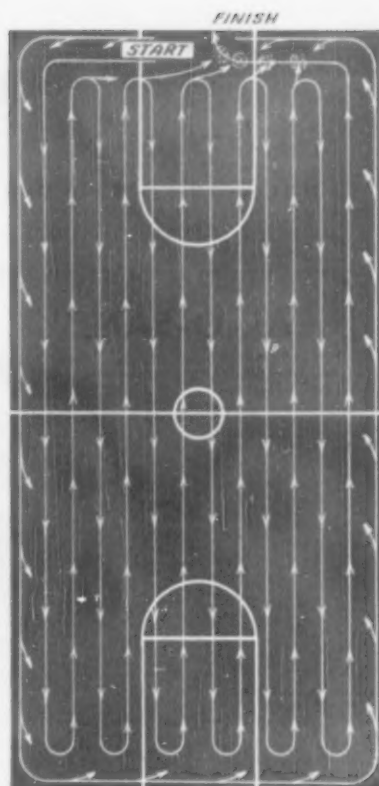
### POINTS TO REMEMBER:

In general, then, be guided by these tested points.

#### Do:

Select best quality, trademarked materials. A specialized gym finish with a high abrasion index will outwear ordinary varnishes by several years.

See that you have the necessary materials in adequate quantities—



tools and equipment on hand before starting the job, so there'll be no delay in getting your gym floor back into action.

Follow manufacturers' instructions. Allow ample drying time between coats.

If you have a problem gym, get the help of a floor expert made available without charge by several of the nationally known floor treatment manufacturers.

#### DON'T USE:

... dangerous oily, greasy floor dressings. Floor oils cause wood floors to become dark and unsightly, and constitute a real fire hazard.

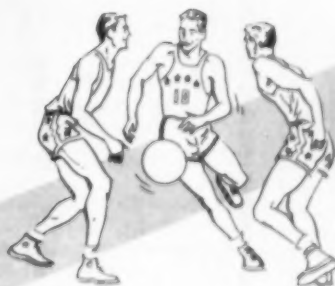
... harsh or gritty sweeping compounds. Scrubbing powders contain-



# At Home in Any League



Officially Approved



# Pennsylvania

**PENNBILT PB-6**

Requested by coaches and players at all levels of competition, the Pennbilt PB-6 eliminates the old-fashioned switch from old ball for practice to new ball for games. The PB-6 offers many more advantages to you, your team, and your school:

- Quality-built, cross-ply fabric carcass and "Grip-Grain" cover assures longer life—no peeling or scuffing—makes budgets go farther.
- Perfect balance and indefinite shape retention assured.
- Sharper bounce off floor or boards—perfect "feel" makes shots and passes more accurate.
- Easy to clean with soap and water—minimum maintenance keeps PB-6 looking and feeling like new, even after many games and hours of practice.



*"Preferred for Performance"*

**THE GENERAL TIRE & RUBBER COMPANY**

PENNSYLVANIA ATHLETIC PRODUCTS DIVISION  
AKRON, OHIO

YOU GET THE BEST FROM BROOKS  
 FROM BROOKS • YOU GET THE BEST  
 YOU GET THE BEST FROM BROOKS

Basketball, Football  
 and Track Shoes by

**BROOKS!**

The BEST  
 leathers,  
 including  
**KANGAROO  
 LEATHER...**



the toughest and lightest leather for athletic shoes! The best design and workmanship, plus exclusive features that mean better fit, safety and performance!



#SB1: Fine kangaroo top basketball shoe



#B14: Special kangaroo model for football



#35: 3-striper track shoe, shockproof heel

See your dealer or write for catalog and school price list now!

**BROOKS**  
 SHOE MANUFACTURING CO.

"Makers of the Finest  
 in Athletic Footwear"

3210 Cherry St., Phila. 4, Pa.

FROM BROOKS • YOU GET THE BEST  
 YOU GET THE BEST FROM BROOKS

ing alkali or acids result in a gray, dingy, unpolished floor.

... soaps. They can't be rinsed properly—often leave a greasy, soapy residue to seep down into pores of the wood, causing untimely wear.

... much water in cleaning. Dampness penetrating into the floor not only produces an unsanitary condition but leads eventually to rotting and deterioration.

#### THEN PROCEED AS FOLLOWS:

If your floor is new and to be finished for the first time, there are three simple steps to be followed: sealing, marking, and finishing.

If your floor is old, you have three preparation alternatives:

1. Where floors are uneven, boards cupped, or otherwise seriously damaged, sanding is the preparation step indicated.

2. Where floors are basically in sound condition but show a spotty surface, darkened in some areas, worn in others, the use of a good non-flammable paint-varnish remover is advised. (Followed by refinishing as subsequently outlined under directions for finishing a new gym.)

3. For periodic refinishing of gyms in good condition, showing only normal wear from action-play, simple cleaning with a neutral chemical solution is often the only preparatory step recommended. (Then see directions for periodic refinishing.)

#### FINISHING NEW OR SANDED FLOOR:

**Naphtha Wipe.** The first step in treating a freshly laid or newly sanded floor is to clear it of all dust, sand, grease, any foreign matter. This can best be done by vacuum-sweeping and by wiping the entire area with cloths of Turkish toweling wrung out of Naphtha and fastened around the block of a push broom. Unless the floor is free from dirt, primer and finish won't bond properly.

#### SEALING:

Particular attention should be given the first seal coat. Enough material should be used to thoroughly fill and seal wood. With a clean applicator, apply a liberal application of seal in a uniform coat, using straight even strokes. Work first against grain, then smooth out with grain. Avoid leaving puddles of seal on the floor.

After first coat is thoroughly dry, steel wool well with No. 2 steel wool under suitable heavy floor machine. Vacuum and/or sweep with naphtha-treated cloths, and when perfectly clean mark game lines with marking paint. Be sure floor is perfectly clean, then apply second coat of seal.

When the floor has an even coat and shows no dull spots, it is properly sealed. If such dull spots appear, another coat must be applied in the same manner as above.

After seal has dried approximately 12 hours, again steel wool. Sweep and then wipe floor with a naphtha-treated cloth or newly prepared tack rag. Floor is now ready for application of finish.

SEVERAL excellent booklets on gym floors can be obtained without obligation by checking the Master Coupon on the last two pages. "Folder on Gym Floor Finishing, Layout and Marking" (new wide lane marking instructions for 1957-58 season) and "How to Plan Your Gym for Favorite Sports" may be checked under "Hillyard Chemical"; "The Key to Gymnasium Floor Finishing" and "Sweeping and Mopping Floors" may be found under "Huntington Labs."; and "Scotch Brand Plastic Tape #471" under "New Equipment."

#### FINISHING:

Dip a clean applicator into a shallow pan of the finish, and apply a thin uniform coat of finish. Spread with the grain in straight even strokes, working an area not to exceed 5 to 6 feet square. Whenever possible on a large work area, use at least three men in applying finish. Allow floor to dry (approximately 12 hours under normal conditions). One coat is usual. Should two coats be desired, wait 10 days between coats.

After final coat, don't use floor for at least 48 hours, and no dances or similar events must be scheduled for at least one week.

Floor must be free of dust and dirt, so avoid air currents that carry dust and dirt. Temperature of room and materials should be above 70°F during treatment. Allow adequate ventilation for proper curing. Such a finish will set up hard and tough, but elastic. Its high gloss, no-glare finish will test U/L approval "anti-slip".

#### FINISHED FLOOR:

The floor is now ready for action. Its color is a warm, mellow, natural, light wood tone. The entire surface is glossy and mirrorhard—a lustrous, no-glare, satin-smooth finish that will endure under all playing conditions.

#### MAINTENANCE:

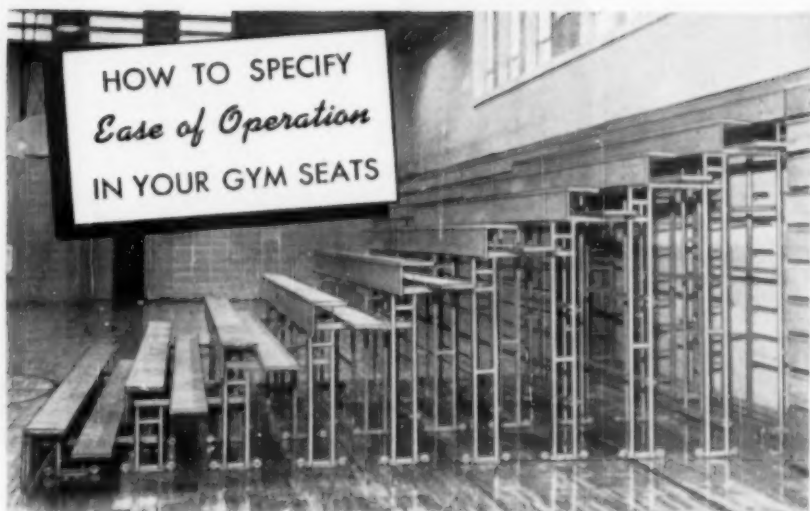
Your properly sealed and finished gym floor is easy and inexpensive to maintain. For daily dust-up, use a cotton sweeping brush sprayed with one of the special non-greasy, dust-laying formulas. Such a non-greasy dressing won't track or be picked up by the ball or players' feet. It will remove rubber marks. (For directions for sweeping a gym floor, see accompanying diagram.)

If considerable dirt and soil is present along the edges or in the corners of the gym, sweep it out several feet with a regular floor brush—where it can be picked up later with the sweeping mop. The sweeping mop should be held so that the strands point forward, and should be pushed from one end of the floor to the other with considerable downward pressure on the handle. When employing a

(Continued on page 52)



HOW TO SPECIFY  
*Ease of Operation*  
IN YOUR GYM SEATS



## Safway Seats Quickly Open for Spectators, Close for Gym Work

**GYMNASIUM IS EASILY CONVERTED INTO AN 'ARENA' BY YOUR REGULAR PERSONNEL**

**ARE TELESCOPING GYM SEATS** part of your development program—to be installed soon, or in the years just ahead?

Then you'll be looking for *ease of operation* as an important feature in the seats you specify... an advantage designed and built into Safway telescoping gym seats. Here are specific reasons why Safway seats offer greatest handling convenience:

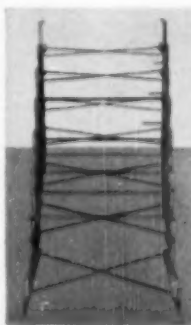
**SMOOTH ROLLING**—Safway makes the *only* "hideaway" gym seats with ball bearing wheels *both* on top of and under the vertical support columns. Friction is minimized—seats smoothly roll out or in.

**RIGID STRUCTURE**—Ample cross bracing ties seat supports into a rigid, unified structure. Thus complete 16-ft. sections move as a unit—do not bind or become cocked.

**AUTOMATIC LOCKS**—As seats are extended, latches drop into place automatically—without attention from operator. Lifting the front apron permits seats to telescope without other unlatching by operator.

**HANDY GRIPS**—The tilting apron board under the first row of seats is provided with three sets of hand-holds in each 16-ft. length. This permits a straight-line pull by 1, 2 or 3 persons.

**EASY CLEANING**—Wood members are hand-sanded and carefully finished—rarely need attention. Support holds up front apron board for easy cleaning under seats when extended or nested.



**RIGID UNIT**

Each 16-ft. row is braced parallel to the floor with horizontal and cross bracing—moves as a unit.



**HAND-HOLDS**

Located in apron board under first row—used for extending seats. Three sets of hand-holds in each 16-ft. length for pulling by 1, 2 or 3 persons.



**APRON SUPPORT**

Holds apron board out of way for under-seat cleaning. Operates with seats extended or nested. Folds back of apron board when not in use.

## OPERATING COSTS LOWER WHEN GYM SEATS TELESCOPE WITHOUT EFFORT

Telescoping seats make your gymnasium more versatile—keep it in constant use for a variety of popular events.

Sometimes you'll want to clear the floor for gym work. For spectator events, you'll extend seats all the way. At other times, you will pull out only one row or several rows, as needed.

This means that telescoping seats are continually being re-adjusted to fit your changing requirements. And when the seats operate smoothly—without effort—you obtain substantial savings in handling time and cost. Your savings over the year will total to an important figure.

### SAVES YOUR TIME

Safway telescoping gym seats give you an exclusive combination of features to cut down handling time and maintenance. Look over these advantages at the left and below. Make sure you get *all* of them when you order gym seats—specify **SAFWAY**.

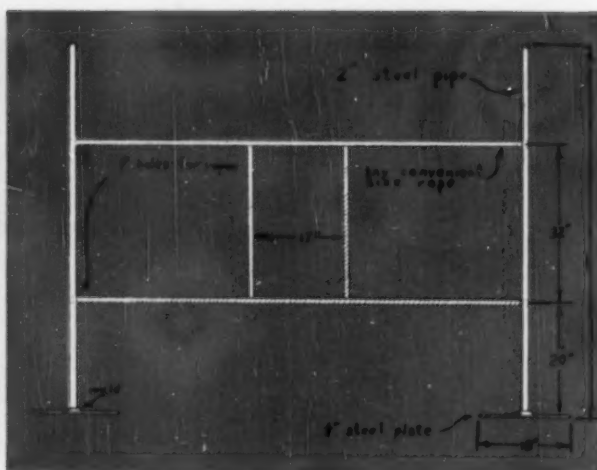
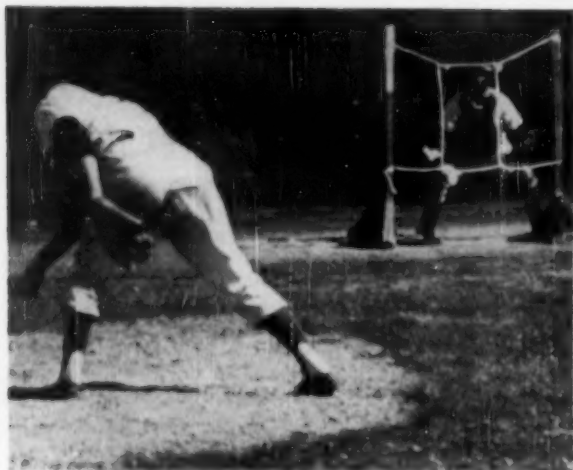
Many other built-in features in Safway gym seats assure spectator comfort, unobstructed vision, safety, floor protection, etc. When you are ready to consider telescoping gym seats, get the complete Safway story.

See Safway gym seats and members at the AASA Convention—Atlantic City—Feb. 15-20—Booths 1432-35-37.

### Get the Safway Story!

When gym seats are up for consideration, check with Safway. Submit plan details for recommendations (no obligation). And write today for free 12-page Bulletin 161.

**SAFWAY**  
STEEL PRODUCTS, INC.  
6220 W. State St., Milwaukee 13, Wis.



Ropes secured between two pole uprights from a rectangle that simulates the strike zone.

## Baseball Coaching Aids

**B**ELIEVING as we do that winning baseball is predicated on the development of sound mechanical and mental skills, Norte del Rio High School puts in considerable time on pre-season skill sessions and modern practice devices.

To thoroughly implement our philosophy, we launch our program early in February with two weeks of after-school classes. Most people refer to our two-hours-per-day sessions as theory classes. We prefer to call them "know-how" or "understanding" classes.

Three phases are covered during this two-week period:

1. **The rules of the game.** Your winning player is the one who knows the rules and who can put his knowledge to work for his team. The player who doesn't know the rules thoroughly can hurt you in the tight spots.

2. **Tips on individual position play.** Too many players don't realize that important techniques are involved in playing a particular position. For instance, outfielders aren't just players who catch fly balls and make long throws. Your outstanding outfielders study their positions scientifically.

3. **Problems and situations.** Here, knowledge of the rules and techniques of playing a position are combined with mental drills to build a conditioned response. Baseball plays develop so rapidly that a player must react instinctively—and correctly—or the opponent will have the advantage.

We use all the regular teaching

By **BILL MALKASIAN**

Norte Del Rio H. S., N. Sacramento, Cal.

techniques for our classroom work. Movies form our basic instruction. We have films on each position plus general subject films such as batting.

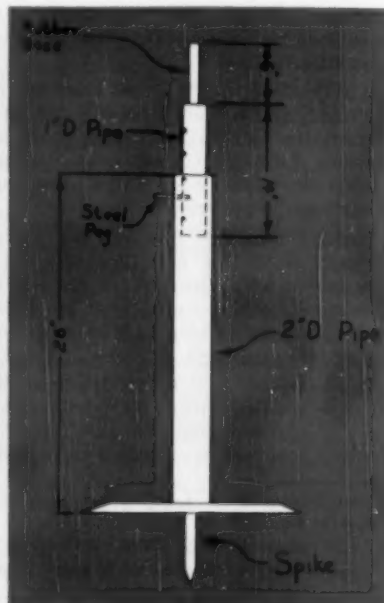
Lectures are employed, too, and here the blackboard is used for diagramming.

Movies and lectures are followed by discussions, which form an integral part of our classroom work. Here, we shoot questions at the boys

such as, "When should a team give a run?" or "How does an outfielder start a relay?"

A question-and-answer period is an automatic follow-up after a film, lecture or discussion. This gives the boys an opportunity to have any questionable points clarified.

When the group feels ready, an examination is given after each unit. This examinational procedure furthers the boys' understanding of the subject. Then, too, it indicates the areas which need still further coaching emphasis.



Batting tee is made of two pieces of tubing and a piece of garden hose.



## Mr. Athletic Director

- Here is the answer to your budget problems . . .
- A complete line of low cost all rubber Athletic Balls . . .
- Specifically designed for intramural sports and playgrounds . . .
- Proven to withstand the most rugged use.



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Eagle Rubber has been manufacturing All Rubber Playballs for over 38 years. Now we are producing a top notch line of Quality Athletic Balls at economical prices. Designed for rough intramural and playground use, these tough, durable all rubber balls have proven to be longer lasting under rugged tests on both indoor and outdoor courts. Write today for further information and prices.

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**Springier  
FLOORS**



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of "Jump" Counts**

Remember the extra resilience of J. W. Wells Diamond Hard Northern Maple is a built-in advantage that can decide any close game played on your home floor. Strip, Block, Herringbone, End-to-End, the wise pick Maple--The wisest pick Wells.



**NORTHERN MAPLE  
and OAK  
FLOORING**

**J. W. WELLS  
LUMBER COMPANY**

Menominee, Michigan  
Phone 3633 or 6400

We recommend three pieces of modern practice equipment—a special pitching target, a batting tee, and an improved batting cage.

Any of these practice devices can be made simply and economically in your shop.

The pitching target, designed primarily to help develop control, actually serves a dual purpose, since it also helps train catchers to receive the ball.

This target is constructed by placing pole supports into the ground and then simulating the strike zone with ropes secured between the up-rights to form a rectangle.

We allow the pitcher to throw a fast ball, curve or change-up when using the target; and we'll also use the target occasionally to warm up a pitcher before or during a game.

The catcher gains skill in receiving because the pitches often glance off the ropes with somewhat the same action as a foul tip.

**Pitching Target Construction Details:** Our pitching target can be inexpensively constructed in a school shop. It consists of two steel or iron plates 18" square, to each of which is welded a 6' section of 2" pipe. These pipes are marked with an eye mounting, holes, or merely a painted stripe at a level 20" from the base and 52" from the base to form the distance of the vertical strike zone. Any type of 1/2" or 3/4" rope is threaded to the frame with two vertical strands connecting the horizontal strands, thereby creating a 17" by 32" strike zone.

The batting tee, used for developing stride and swing coordination, involves two pieces of pipe or tubing—one slightly larger than the other—and a piece of garden hose.

The larger piece of tubing or pipe is sunk into the ground. The smaller piece is fitted down inside with just enough play to permit height adjustment. The piece of garden hose is secured to the top of the inner pipe or tubing, the ball is balanced on the top of the hose.

Players can take turns practicing the coordination of stride, swing, and breaking the wrist. The ball on the hose provides an actual target for the swing, teaching them to "groove" the cut. It's a much better form of practice than swinging at an imaginary ball, which we used to do.

**Batting Tee Construction Details:** The batting tee can be economically fabricated from scrap metal so frequently found around a school shop area. Ours utilizes a 3' section into which is inserted a 3' length of 1 1/2" pipe which has been drilled to permit the insertion of a pin. These pin holes accommodate the ball, which

is placed atop an 8" section of garden hose attached to the 1 1/2" pipe, to be placed at the top, middle, or bottom of the strike zone.

This training device has been of great benefit in teaching youngsters to meet the ball in front and to handle the difficult high and low pitches which come through the strike zone. A smooth stroke is developed by repeatedly driving the ball into the padded batting cage.

Since the tee is adjustable to three heights, the abbreviated "golf swing" required by a knee-high pitch can be clearly demonstrated. It's believed that emphasis on a level swing, regardless of the ball's position in the vertical strike zone, is time wasted. A shoulder-high pitch requires a modified "chopping swing" and the aforementioned knee pitch must be "golfed," although the ball in either of these extremes should be met in front just as with a waist-high pitch.

Versatility of bat and eye control can be gained through diligent use of the batting tee, and individuals can work out alone while perfecting their approach to the ball and their swing.

We've taken the conventional batting cage and fitted it with what we feel is an important safety feature. Doors have been swung from the wings of the cage. This allows the hitters to enter and leave without having to move out in front of the cage.

**Batting Cage Construction Details:** The batting cage is the most complex of the three devices, but still simple enough to be constructed in a school shop.

We consider the batting cage to be the most important of the training devices, since some 50% of our practice sessions is devoted to batting drills. Baseball players at any level frequently don't know their own individual strike zones and we teach this in addition to other techniques in the batting cage.

For the cage frame, 2" pipe is used throughout in the construction. Cyclone type fencing is welded to the frame and the entire structure is given mobility by the attachment of regular car wheels, though wheels of any type will serve the purpose.

The time spent in pre-season classroom work permits us to get down to brass tacks as soon as we move outside, enabling us to shape up sooner than many of our opponents.

In closing, I'd like to add that I've always found that the basic ingredients for a good baseball player are the desire to improve, natural ability, and an ability to learn quickly.





## Get more consistent play with Spalding's "Twins of the Majors"!



# SPALDING

sets the pace in sports

Consistency! It's what a coach looks for in his players—it's what players want in a baseball!

That's why you'll find Spalding's famous "Twins of the Majors," the Spalding and the Spalding-made Reach baseballs, performing double duty in other leagues throughout the country.

Coaches just naturally gravitate to the finest baseballs available—the only baseballs *ever* used by the American and National League teams.

When you're selecting equipment for your team this year, be sure to consider Spalding-made baseballs first. And while you're at it, remember, Spalding offers you an entire line of baseball equipment.

Whatever your needs, be it baseballs, gloves, mitts, shoes, chest protectors—Spalding offers outstanding values in every price range, from the Majors right down to the Little Leagues.

See your Spalding dealer or representative for full information.

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## Shoot Your Games In Cinemascope!

(Continued from page 7)

when projected onto the screen. It would thus be difficult to identify them, let alone see their execution of assignments.

The answer to all these problems lies in a revolutionary, ultra-modern device known as the *anamorphic lens*. Every one has seen cinemascopes and is probably familiar with the wide-angled lens used in this type of movie-making and projection. This lens is now being employed on the gridiron with astonishing results.

When attached to the telephoto lens by means of an adapter ring, the anamorphic lens squeezes more action onto the film without sacrificing brilliant close-up detail. When projected back through the anamorphic lens (which is attached to the projector in much the same way it was attached to the camera), about  $2\frac{1}{2}$  times more of the game action appears on the screen!

In short, the anamorphic lens can catch  $2\frac{1}{2}$  times more of the horizontal action than the telephoto lens alone. On many scenes taken in cinemascopes, all 22 players and the four officials appear close-up! This is a rarity when only the telephoto lens is used.

Taking football movies in cinemascopes is somewhat different from shooting regular game movies. The anamorphic lens is attached to the end of the telephoto lens with an adapter ring. Both lenses are set for the same distance, and since the game is filmed through two lenses the telephoto lens is opened at least one-half stop for adequate exposure.

At present, the light meters usually used by school football movie-makers isn't calibrated for cinemascopes. And since you cannot depend on having a bright sunny day in the fall, it's advisable to use a new high-speed wide-latitude film.

High-speed means that sharp pictures can be obtained under practically all light conditions. The film is so sensitive that you can easily shoot a basketball game under the light conditions normally available in a gym.

Wide-latitude means that the exposure needn't be as exact as in the older type of film. Hence, when using a light meter, it's practically impossible to over-expose or under-expose even when quite a bit off in your reading. The wide-latitude of the film will take care of this.

In taking game movies in cinemascopes, the one-inch viewer on the

camera is used. Masking tape is placed over the top and bottom thirds of the viewer, giving the approximate area that'll be photographed with the combination 3-inch telephoto lens and anamorphic lens.

Care must be taken when attaching the anamorphic lens to the telephoto lens. Its plane must be perpendicular to the playing field. Should the lens be off by more than a few degrees, the pictures will be taken on a diagonal rather than horizontal plane.

When showing these cinemascopic movies on a screen, it's necessary to attach the anamorphic lens to the lens of the projector. Used for this purpose is an attachment ring similar to that used for affixing the lens to the camera.

For best results, it's desirable to use a slightly curved screen designed especially for cinemascopes. The ordinary type of screen cannot furnish satisfactory results. A special screen is needed to accommodate the extra width. As mentioned previously, the cinemascopes film shows about  $2\frac{1}{2}$  times more of the game action.

Cost of the anamorphic lens ranges from \$115 to \$165, and the cost of the screen varies from \$30 to \$75, depending on the size. Both are well within the budget of schools using game movies as a coaching aid.

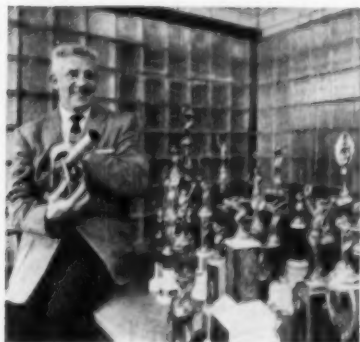
The cinemascopic films can be sent out for rapid processing just as the regular movies, and can be slowed down, stopped, and reversed in the same manner as ordinary films.

This past season, the N. Y. Giants shot all their game movies in cinemascopes, using the proper screen and viewing space for projection purposes. Colleges in the East are now also experimenting with this type of game film. Cinemascopic films of Princeton, Yale, and Columbia games have been observed at one of the big film labs in New York City.

In addition to the limiting factors already mentioned (technical problems of the cameraman, proper screen, etc.), a further difficulty crops up whenever the game movies are used for public relation purposes at alumni group sessions, athletic meetings, and physical education classes. At present, most of these organizations aren't equipped with the anamorphic lens (needed for the projector) or the cinemascopic type screen.



## "Training movies are easy to shoot with Du Pont Type 931 Film ... even in poorly lighted pools!"



Coach Hartlaub's teams have won over 400 team and 600 individual trophies plus 4,000 medals. He says: "The effect of training films on my boys' progress can't be overemphasized. It plays a big part in preparing them for competition!"

... SAYS PAUL HARTLAUB, OLYMPIC SWIMMING OFFICIAL, CINCINNATI, OHIO

"You can't beat a motion picture for showing a swimmer his mistakes. In filming practice sessions as well as competitions, I always use Du Pont Type 931 Film. It gives me consistently good images - even in poorly lighted pools," declares Mr. Hartlaub, coach of the prize-winning Coca-Cola Swimming Team, Cincinnati, Ohio.

"Rugged Du Pont 931 is quicker and easier to process than any film I've ever tried. It has such a terrific latitude, I use it exclusively for filming all sports activities—basketball, baseball and foot-

ball, as well as swimming, day or night. And I can always depend on sharp, clear pictures!"

**TAKE ADVANTAGE** of this modern training aid for your own teams. Du Pont Type 930 for daylight shooting, and Type 931 for indoor sports and night games under existing lighting. These rugged films can be processed quickly for viewing soon after practice sessions or games. Just mail the coupon below for more information and a list of processors in your own area equipped to give you speedy service.

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301



# COACHES' CORNER



Please send all contributions to this column to Scholastic Coach, Coaches' Corner Dept., 33 West 42 St., New York 36, N. Y.

**T**HE kid was being interviewed by the coach for a basketball scholarship at the state university.

"How's your outside shot?" asked the coach.

"Deadly."

"How are you on the inside?"

"My jump shot is the greatest. I've got a tremendous change of direction, and can hook with either hand."

"What about your defense?"

"The best. Nobody has ever scored in double figures against me."

"Can you run?"

"I'm so fast I can get the rebound, pass it out, and then lead the fast break."

The coach shook his head. "Do you mean you haven't a single weakness?"

"Oh yes I have," admitted the boy cheerfully. "I tell lies."

**Roy Campanella** would just as soon forget the 1956 season. All the pitchers took turns at fooling him, and Campy wound up with a .215 batting average.

Flying home from the last critical series with the Pirates, the Dodgers were discussing fishing. Carl Furillo proudly displayed a delicately made trout fly. He handed it to Pee Wee Reese who extended it to Campy. But Roy refused to take it.

"Put it away," he snapped with feigned anger.

"What's the matter with it?" asked Furillo.

"I've been biting at everything," the catcher said, "and I'm liable to take a bite at that, too!"

**Monstrous 265-lb. Earl Leggett**, LSU tackle, is about as easy to move as Boulder Dam and when he lowers the boom on you, it's good night, sweetheart. Against Arkansas last year, he was downright murderous. In one sequence of plays, he flattened the ball-carrier three straight times. On the next play, Arkansas tried the opposite guard, Paul Ziegler. Paul grabbed the ball-carrier by one leg, but

couldn't bring him down. After several seconds of tugging, the LSU guard looked up at the runner and begged:

"For gosh sakes fall down before Leggett gets in here and mashes both of us!"

**Frank Gifford**, the N. Y. Giants' half-back, is one of those versatile fellows who can do just about everything superlatively well. He's a tremendous runner, passer, kicker, and defensive ace. This season he insisted on trying his hand as a T qb, then on place kicking. To prove he wasn't kidding around, he kicked three field goals against the Bears in an exhibition game.

"Gifford does so many things so well," commented Captain Kyle Rote, "that he's put more men out of work than Eli Whitney."

**The player complained** bitterly to the ref. "That big guy deliberately

threw an elbow into my face and you didn't call it."

The referee, who had gone to law school, listened patiently and unbelievably. When the kid had finished, he said, "Do you claim that Shaw hit you with malice aforethought?"

"I didn't say that, Ref," the kid snapped. "I said he hit me with an elbow."

**In a N. Y. Knickerbocker** practice scrimmage, "Tricky" Dick McGuire was giving the veteran Carl Braun a hard time with his perpetual motion fast breaking, faking, feinting, stop-and-going.

Finally the panting Braun raised a weary hand. "Come on, Dick," he pleaded. "Take it easy on an old man."

"Carl," grinned McGuire, "I can see your lips moving, but I've turned off my hearing aid."

**Wanna know the secret** of Mickey Mantle's success? Big muscles? Nah. Great timing? Nope. Speed? Uh-uh. It's his extrapyramidal influences! Oh heck, let Scope, the medical news weekly, explain it to you:

"Mantle observes the ball is thrown with binocular series of images reflected on the occipital cortex; information is relayed to the frontal association areas where future trajectory of ball is predicted. In motor cortex, the necessary neurons are fired and muscular action results. Motor impulses are superimposed on extrapyramidal influences from the cerebellum, basal ganglia, etc."

Dr. Thomas K. Cureton couldn't have explained it any better!

**A real sportsman** — that's Fred Haney, manager of the Milwaukee Braves. Remember that tremendous game Warren Spahn pitched against St. Louis on the next to the last day of the season? Spahn lost a heart-

Incidentally, too, we receive SCHOLASTIC COACH regularly here in our office. I am constantly impressed with the fact that your magazine deals with interscholastic athletics from a high school viewpoint. Never does the reader get the impression that interscholastic athletics are some minor phase of the sports program, basking in the reflected glory of college and professional athletics. High school athletics is still strictly amateur, it is impregnated with a tremendous amount of idealism and, in practically all of our high schools, it is a vital and integral part of the total educational program. It seems to me that SCHOLASTIC COACH is aware of these facts and misses no opportunities to bring them to the fore.

Very truly yours,

*Milt Sprunger*

M. F. Sprunger  
Asst. Exec. Secy.

Excerpt from a letter from M. F. Sprunger, assistant secretary, Illinois High School Athletic Association

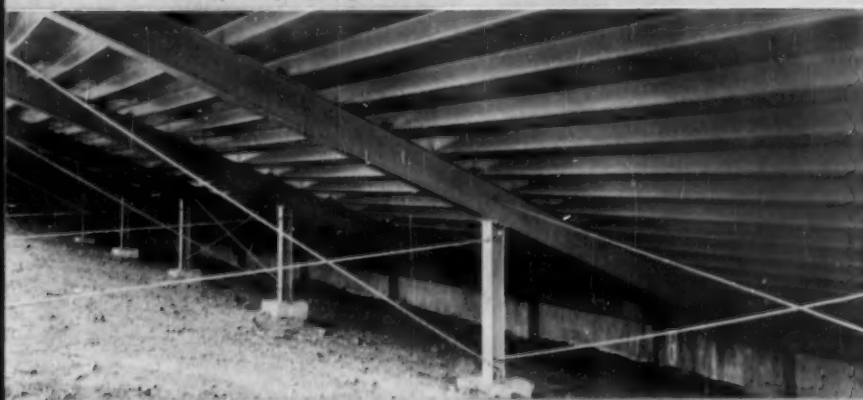


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North, South, East and West throughout the country, Pittsburgh-Des Moines Steel-Deck Grandstands are at the heart of high school outdoor events. From football to Commencement, these adaptable, handsome stands serve comfort and security throughout the year. Unit-constructed, permanent, low in first cost and low in upkeep, P-DM Grandstands—first choice of progressive school districts—offer truly exceptional value. May we give you the details?

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EL MONTE, CAL.	P. O. Box 2068	SANTA CLARA, CAL.	617 Alvise Road



breaking 12-inning affair, 2-1. And that meant the loss of the pennant.

You can imagine what that meant to Haney. But do you know the first thing he did? He walked over to Spahn, shook his hand, and said: "That was a tremendous game, boy. Too bad you had to lose it." The pitcher broke into tears at this wonderful gesture.

**Talking about class,** the Washington Redskins (pro footballers) certainly have loads of it. Early in the season, their star back, Vic Janowicz, suffered a severe brain concussion following an auto crash. Since the accident occurred off the field, the Redskin management lopped Vic from the payroll.

So the 33 Redskin players, the four coaches, and the equipment manager got together and decided to contribute \$10 a week each to Vic!

Harry Wismer, an executive in the organization, quit in disgust when owner George Marshall refused to yield any of the milk of human kindness. But before leaving, Harry chipped in \$100-a-week to the Janowicz fund.

If there were such a thing as an alumni baseball league, McClymonds H. S. of Oakland, Calif., would be a red-hot favorite to cop the pennant. No fewer than five current big leaguers hail from McClymonds.

They are Bill Wight, veteran Baltimore pitcher; Curt Roberts, who

played 31 games at Pittsburgh; Curtis Flood, who finished the season with the Reds; Charlie Beamon, called up by the Orioles; and last but far from least, Frank Robinson, everyone's "rookie of the year" with 38 homers for the Redlegs.

And, just for the record, McClymonds is also the alma mater of the greatest college basketball player of 1956. That's Bill Russell, of course.

**The least surprised man** in America over Johnny Majors' success at Tennessee is his high school coach—who also happens to be his father! Pop Majors is the kind of father and coach who grows his own star halfbacks at Huntland (Tenn.) H. S.

First there was Johnny. Then came Joe Majors, who now plays at Florida State. The current Huntland hurricane is Bill Majors. When Bill graduates, there'll be Larry Majors, now a sophomore. And for future delivery, there's seven-year-old Bob Majors.

That's enough Majors to stock an army. But nobody down Huntland way is complaining. Under Dad Majors' coaching, Huntland has lost only one game in the past six years!

**Bumblings along telecasting row:** Ray Scott: "That penalty was for illegal use of the hands." (No sooner were these words uttered when the voice of the field announcer floated clearly over the mike, "That penalty was for ineligible receivers down field.")

**Jerry Dunphy:** "Tobin Rote can pass to any one of six men—either end or to any of the three other backs."

**Dunphy,** a little later: "I've been told unofficially that San Francisco has turned out more pro football players than any school in America." (S.F. has turned out 10 pros, Notre Dame 17, and Ohio State 16.)

**Red Grange:** "At Pitt, Andy Gustafson received honorable mention on the All-American. He was one of the greatest fullbacks of all time." (What did that make the three fullbacks who were picked No. 1, No. 2, and No. 3 ahead of him on that All-American team?)

(If you hear any goofs, please pass 'em along to us.)

**Playing golf** while on vacation in Scotland, the American duffer called for his No. 5 iron. "Against this wind," observed his caddie, "yon's a spoon shot."

"Nonsense," snapped the golfer, "give me my No. 5." The caddie shook his head and persisted, "Tak' ma tip an' tak' yer spoon."

The American snatched his No. 5 from the bag, lined up his shot, and let go. The ball rose, hit the green, and rolled lazily toward the hole—and fell in!

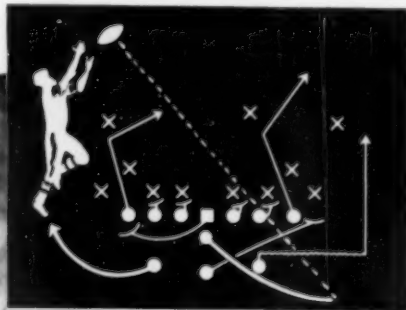
"Well," he cried, "how about that!" "Na'sae bad," replied the caddie unperturbedly, "but ye'd have done it be'er wi' a spoon!"

## Scoring Plays

Come Off

"Blackboard

Perfect!"



# TD

## THAT'S WHY THEY CALL THIS BALL

Backs and ends gain confidence when they handle the Wilson TD Football. Here is the ball with the tacky feel built in for better ball handling. It's tanned in the leather; there's no top lacquer finish on this ball. Further, the Wilson TD keeps

its tacky feel through cleaning after cleaning and even when wet. Let 'er rain—you still get sure ball handling, full distance on kicks!

Put a Wilson TD in your squad's hands. They'll never let you take it away from them!

# Win With Wilson

Wilson Sporting Goods Co., Chicago, Ill.  
Fastest nation-wide service from 32 branch offices.  
(A subsidiary of Wilson & Co., Inc.)

## Equipment System for a Large Sports Program

(Continued from page 11)

the season, he must pay for it, with the money being credited to the A. A. account.

In conjunction with this, I consider it important to take a complete equipment inventory at the close of the season. This assures more efficient purchasing procedures and a better knowledge of the condition of your equipment.

Football, as I'm sure everyone will agree, constitutes the major equipment problem in our schools. We feel that we've solved it with the use of a combination locker, drying, and shower room that makes maximum use of the space allotted to us. In fact, we've even been able to find room for our whirlpool bath!

Four years ago, the football problem at Lower Merion was acute. Equipment was stored in small bins and reissued to the players in the same wet condition it was received. Shower and locker facilities were also poor.

However, with the cooperation of the administration, we were able to move to our present location—using existing facilities, but adding a drying cage with accommodations for 100 complete football uniforms.

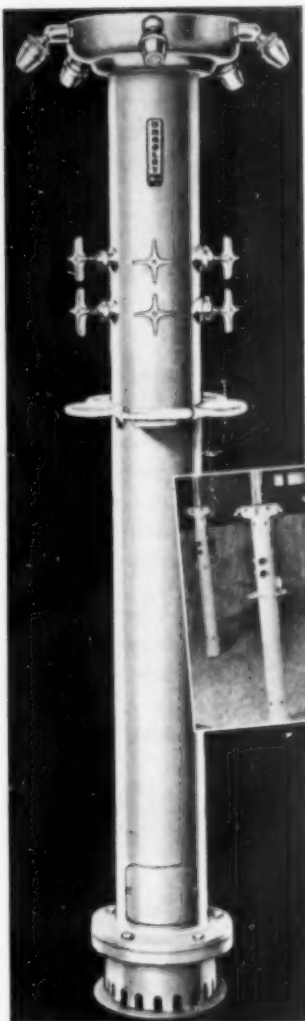
### INDIVIDUAL HANGERS

Each boy is assigned a specific numbered hanger on which he hangs all his equipment with the exception of shoes, which he keeps in his locker. The drying cage has two doors, one at each end. The boy enters one door, picks up his hanger, which is always in the same place, and leaves by the other door.

Upon finishing dressing, he leaves his hanger in his locker. After practice, he returns it to its place in the cage, with all the equipment on it, to dry for use the next day.

Some schools issue the hangers via student managers, but we feel our system works best. This is particularly true on game days. Having the game jerseys and shell pants suspended on hangers eliminates long noisy lines at the equipment windows, thereby speeding up the whole process and providing the coaches with more time for pre-game talks, etc.

Tape, medical supplies, shoe-strings, towels, etc., are dispensed from an issue room running along one side of the room and set apart



### SOME RECENT BRADLEY SHOWER INSTALLATIONS

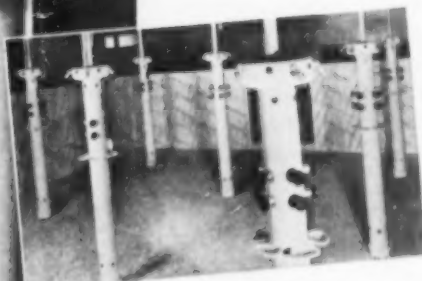
Robinsdale Jr. H. S., Robinsdale, Minn.  
Marian College, Poughkeepsie, N. Y.  
Sherburne H. S., Sherburne, Mass.  
Shadle Park H. S., Spokane, Wash.  
Hopkins Jr. H. S., Hopkins, Minn.  
Deveraux School, Devon, Penn.  
Estherville H. S. and Jr. College, Estherville, Ia.  
Burgess H. S., El Paso, Texas  
Gering Jr. H. S., Gering, Nebraska  
Barrie H. S., Barrie, Ont.  
Lower Marion Township H. S., Rosemont, Pa.  
Capac H. S., Capac, Mich.  
North of the River H. S., Bakersfield, Calif.



Here, 34 can shower at one time. 5-Shower Columns in center areas and 3-Shower Units are placed against wall.

## DO YOUR STUDENTS LACK SHOWER BATH FACILITIES?

What do they do after strenuous gymnasium work, basketball, baseball, football? What do visiting teams do if your school has no shower facilities?



In this school, seven 5-Shower Bradley Columns are placed in partly walled-in room. Where there is a central floor drain, only two piping connections (hot and cold water) are required.

A quick cleansing of perspiration and dirt—not only is refreshing but reduces chance of catching a cold.

Bradley multi-person Shower Units are economical—each column provides for 5 showers or for 3 if placed against wall. They can be open or with partitions and curtains.

Yet each Column requires only three piping connections as compared to 15 needed for 5 conventional shower stalls. And each person has control of water temperature and volume.

Bradleys are the answer to shower problems. Easily installed in new or existing buildings. Get complete details, pages 22 to 26, Catalog 5601. BRADLEY WASHFOUNTAIN CO., 2281 W. Michigan St., Milwaukee 1, Wis.

Write for Catalog 5601



**BRADLEY**  
*Multi-stall showers*

Distributed Through Plumbing Wholesalers

**A MAN FEELS 10 FEET TALL**

# in King-O'Shea

## **CUSTOM-BUILT ATHLETIC EQUIPMENT**

A well dressed team is a confident team.

A King-O'Shea dressed team starts with that advantage—  
—confidence that "we're the best."

Styling, superb custom tailoring, nothing but the finest materials and colors, in King-O'Shea uniforms.

Built-in quality is a deliberate effort on our part to provide the best. Our tapered arm, leg and body patterns are exclusive. Each upper and lower body assembly integrates into a single smooth-fitting, freedom-giving unit.



P.S. Our new Chicago Headquarters is located at River Grove, Ill., a western suburb of Chicago.

# King-O'Shea

**CUSTOM-BUILT ATHLETIC EQUIPMENT**

Division of Wilson Sporting Goods Co.  
River Grove, Ill.

from the cage by wire screening.

The basketball and baseball squads also make good use of these facilities. The soccer, cross-country, wrestling, and track teams store their equipment in lockers, since they don't have any of the special problems indigenous to football. The crew changes at the boathouse on the river.

All boys must purchase a lock before receiving any equipment, and this precaution pays off in less mislaid equipment.

Another major asset in our set-up is our athletic laundry, one of the first of its kind in the Philadelphia area. It consists of the smallest size commercial washer on the market today, 30 x 30, a 20 extractor, and a gas dryer.

This equipment was purchased at an investment of approximately \$3500, and has paid for itself many times over. It enables us to provide every boy with a clean change of T shirt, supporter, socks, practice jersey, and towel every day. The benefits of this are obvious, both sanitary and morale wise, and it also prolongs the life of these articles.

### **RECORD KEEPING**

How to keep a record of these issues? I've found the one-for-one plan most efficient. In short, the boy must return an article in order to receive its clean counterpart. This calls for a supply of two articles for each boy, since one will be soiled and one clean at all times.

If you demand the return of your equipment at the end of the season, it won't be difficult to acquire such a stock. I like to think that this is one of the factors that has helped Lower Merion chalk up 25 straight victories on the gridiron.

When the cost of outside laundry service rose to seven cents per towel, we also began laundering all our physical ed towels. And three years ago we enlarged the scope of our operations by taking in the uniforms of all the schools in the district, which includes two junior highs and 10 elementary schools. This necessitated the hiring of a full-time laundry man, who is responsible to and aids me in my work. The savings effected by this arrangement more than pay for his salary.

Football games uniforms are laundered weekly by us during the season. At the end of the season, those that don't require mending are laundered and stored away. In addition, we do all the physical education towels throughout the



district, and various miscellaneous items such as home economics towels, etc.

Is it worthwhile? Lower Merion thinks so, because there'll be a laundry in the beautiful new high school now being erected for occupancy in September 1957.

This article wouldn't be complete without a few words on the repair and reconditioning of equipment. At Lower Merion, we make liberal use of several of the reliable firms in the field. It certainly makes sense to pay \$2 to \$4 to recondition a piece of equipment that costs from \$5 to \$25.

Thanks to reconditioning, we have equipment six to seven years old still in usable condition. Minor repairs can be made right at the school. On a large scale, however, only the reconditioner has the tools, know-how, and space to do a good job.

Along with the reconditioning, you get complete protection at no extra cost. From the day the football season ends until next year's practice begins, your equipment is out of your way, fully insured, and fully protected in excellent storage facilities.

## Bulletin Boards

(Continued from page 32)

In some cases, the volume of material is so extensive that charts can be arranged in a form enabling the reader to compare step-by-step the techniques of two or more champions performing the same skill.

The greatest advantage of this technique of mounting pictures is that the individual instructor can modify it to suit his own situation. This is a privilege that is becoming more difficult to exercise in our mass-production programs of education.

Material prepared in this manner is eye-catching and attention-holding. Bulletin-board displays of "The Skill for Today" will help make your instruction more effective.

You may want to use some of your summer leisure time (?) to prepare a file of these charts. Or perhaps you'll only have time to make a few sample charts. You may then assign project charts to class members.

In this way, you can be assured that each worker will have a thorough study of at least the skill illustrated in his project. The class members will also gain the satisfaction of contributing something worthwhile to succeeding classes.



Here's your ticket...

The Union Metal Manufacturing Company  
Canton 5, Ohio

Please send me your new Catalog No. 87 on Union Metal Floodlighting and Area Lighting Poles.

Name \_\_\_\_\_

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to complete details on sports, recreational,  
commercial and industrial

## FLOODLIGHTING POLES



SEND FOR A  
COPY OF THIS NEW  
CATALOG TODAY!

• Easy-to-read diagrams show installation and mounting details for steel or aluminum Monotube poles ranging in height up to 100 feet. Numerous illustrations indicate a wide range of applications. To get your copy merely complete the coupon above, and mail to The Union Metal Manufacturing Company, Canton 5, Ohio.

**UNION METAL**  
*Monotube Floodlighting Poles*



## Arnett Starting Blocks . . .

**"The Choice of the U. S. Olympic Team 1956"**

Official Starting Block for Pennsylvania Relays, Kansas Relays, Texas Relays, Drake Relays, Compton Invitational, Fresno Relays, Modesto Relays, L. A. Coliseum Relays and most all other great meets of the United States.

- Better starts, better performance, less delay. Saves time in running off meets and heats.
- Adjustable to all types of starters, right or left footed, tall or short, in 3 to 9 seconds. Calibrated for remembered individual adjustment.
- So well built for standardization and costs so little, now being used by hundreds of schools one for each lane. "Truly the Champions' Block."
- Runners using Arnett Blocks hold many world records and broke several Olympic marks in 1952 and several Olympic and world records in 1956.
- Buy and furnish one Arnett Block for each lane on your track and quit carrying blocks from school to school, town to town, or nation to nation.
- "The Ultimate in Starting Devices," Dean Cromwell, former U.S.C. Coach, 1948 Olympic coach.
- "Without hesitation I can say that you have the finest block on the market," L. T. Johnson, U. of Illinois track coach.
- Fully guaranteed. Made of Aluminum alloy.

Wholesale School price, \$20.00 each complete  
F.O.B. Inglewood, California

Replaceable parts when needed.  
Rubber Foot Facings \$1.00 each and "T" Nails 75c each

Sold direct to schools. Send orders to:

**Richard W. Arnett**

P.O. Box No. 527, Inglewood, California

### Sensational Equipment by Prep Coach Inventor

- **"LAMARWAY" DELUXE UNIFORM HANGERS**  
Made of strip steel, built to last indefinitely . . . sanitary method of hanging and drying uniforms . . . give your football players a break—permit them to wear dry uniforms daily . . . thousands in use . . . a real equipment saver.
- **"LAMARWAY" GROUND PLUGS . . . for All Types of Fields**  
Simple and accurate method of remarking fields . . . for football—where yard lines intersect side lines, drill holes to exact depth with special ground auger, then drive in plugs . . . will stay put all year . . . makes remarking always accurate.
- **"LAMARWAY" TRACK or SWIMMING SCORE BOOK**  
The book all coaches are talking about. Brutus Hamilton, 1952 Olympic Coach says: "The Lamarway Track Score Book is a most satisfactory scoring device. It incorporates everything that's essential for accurate and quick scoring. This is a distinct step forward in the field of athletic publications." \$2 postpaid.

Send for literature:

**UNIVERSITY ATHLETIC EQUIPMENT**  
1820 HOPKINS STREET, BERKELEY 7, CALIF.

## A Gym Finish That's the End

(Continued from page 38)

sweeping mop, do not use a sweeping compound.

### PERIODIC REFINISHING:

Though traffic-soiled from a schedule of fast-action games, a floor is in good basic condition so long as it retains its foundation sealing and some of the finish. To put it in A-1 shape, the floor needs only neutral chemical cleaning to remove dust, grease, rubber, and traffic marks; quick touch-up of games lines; and a fresh finish. Tools recommended include steel-wooling machine, neutral chemical cleaner, and floor brush.

In cleaning, work only a small area at a time. Use a good neutral chemical cleaner in economical proportion of four ounces to a gallon of water. Cleaner may be machine-agitated or efficiently accomplished with ordinary mop and pail.

The floor should be rinsed well with clear water several times. After rinsing, dry floor should be steel-wooled and wiped with naphtha cloths to remove all traces of dust and steel-wool particles. Wherever necessary, retouch playing lines and apply finish coat, following directions.

### REMOVING OLD VARNISH:

On floors where wood isn't cupped or damaged or for old floors too thin to be sanded and that require removal of the old finish, a non-flammable varnish remover may be used with success. Simply spread it on. The old finish dissolves instantly without softening or burning the wood or raising the grain. The bare surface is then ready to receive the new finish as outlined above.

### HELP ON SPECIAL PROBLEMS:

So remember, regardless of the condition of your gym floor, there's a treatment that will put it in condition to give years of added wear. If in doubt or for information and help on any special gym floor problem, call on the consultation service maintained for your use by several quality floor manufacturers.

One of the questions often asked is: We want to line our gym floor for badminton, volleyball and shuffleboard. (a) What color and type of paint shall we use? (b) Where can we get court diagrams?

Answer: (a) Color of lines is optional. There are no regulations governing color. Normally, white lines are chosen for volleyball. (If your basketball lines are black, you could use 2" green lines for volleyball and red 1½" for badminton, or any contrasting choice.) Game lines should always be painted AFTER the seal coat and before the finish coat.

When lining, we recommend a specialized gym lining paint from a quality manufacturer. Such a paint

will be heavy-bodied so it won't run or creep and will have a high gloss finish. The chief advantages of using a specialized MARKING enamel are its quick-drying properties and its compatability to the gym floor finish which is to follow.

Only too often, an ordinary paint is used, and when the finish is applied it doesn't adhere properly, and you can actually peel a 2-inch strip of finish off the painted lines.

(b) You can get valuable help on the correct lining procedure and necessary tools, together with exact measurements by contacting your floor treatment manufacturer. In fact he'll not only give you full information, but send along a floor treatment expert to lend a hand with the lining. Also available from your manufacturer, free on request, are charts showing detailed diagrams of all indoor and outdoor games.

#### EXTRA LINING

**Additional Lines:** If you wish to line your floor for certain other games, you naturally wouldn't want to re-finish your floor—since it's necessary to remove the gym finish for new lines, as the finish is always applied over the lines to prevent wear.

A very durable plastic tape is available for this purpose. Called Scotch Brand Plastic Tape #471, it applies lines that will easily last for a season of play. The tape comes in various colors—black, yellow, red, blue, green, brown, orange, and white, and in various widths. It can be applied by hand or comes equipped with a special applicator for large areas.

#### MULTIPLE USE:

Another matter for discussion centers around use of the gym for many other activities. A modern hardwood gym floor costs several thousand dollars, an expenditure which frightens many gym administrators into restricting its use to basketball, volleyball, and other "rubber-soled" sports, and keeps them after the maintenance manager for frequent primings and preenings.

You might remember that architects and construction engineers do not recommend maple, birch, or oak hardwoods for their beauty alone. These woods are tough and durable and can stand a lot of punishment.

You don't have to "baby" your gym floors! An annual application of good floor finish will help keep your courts looking new from year to year. But here is a caution: Choose a gym finish with the highest possible abrasion index that has the ability to stand use and wear. Ordinary seals and finishes won't stand up under skating, dancing, and tough weekly schedules of events.

Also available are special finishes that give a non-slippery surface to resilient-type floors such as rubber, asphalt tile, cork, or linoleum. Consult your floor maintenance man for the proper finish to use on such floors.

# SOMETHING *Spanjian* PASADENA NEW IN KNIT KNIT BASEBALL UNIFORM



- NEW:** Made of Nylon and Cotton.
- TESTED:** By Colleges and High Schools in all sections of the country during the 1956 season.
- COMFORT:** Cooler on the player because it breathes and allergic irritations eliminated by the KNIT.
- ECONOMICAL:** Washable and costs less than most top grade materials.
- DURABLE:** Nylon yarn stops abrasive wear at all points.
- APPEARANCE:** Gives natural drape and sharp spectator appeal.
- COLORS:** Available in natural white and buff grey.

See Your Spanjian Dealer for Samples and Further Information

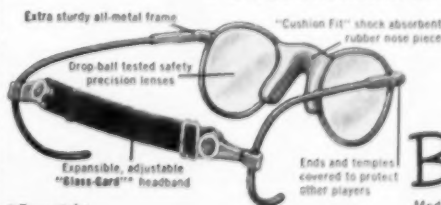
**SPANJIAN SPORTSWEAR, 1367 N. Fair Oaks, Pasadena, Cal.**

Manufacturers of Quality Athletic Clothing

Protect those eyes...get

**BENSON'S ALL AMERICAN\* ATHLETIC GLASSES**

- found wherever athletes compete throughout America
- a wise investment in eye safety



For your protection, look for the **AA** trademark on the lenses of every pair of genuine **ALL AMERICAN** Athletic Glasses

See your eye doctor

**Benson's**

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COMPLETE LABORATORIES CONVENIENTLY LOCATED IN UPPER MIDWEST CITIES



## Keep 'Em Playing BASKETBALL



### Precision Built—Shock Resistant Case Hardened

No chance for error! Lenses are ground to individual prescription from finest Bausch & Lomb optical glass and hardened to meet U. S. Gov't safety standards. Frame is of non-corrosive white metal with elastic head band (regular temples for coaches and officials). When ordering send prescription and size of present lenses. Allow 5 days for delivery.

**BASEBALL**  
Regular temples  
supplied for baseball

**Only \$21.75**

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**PRECISION ATHLETIC GOGGLE CO.**  
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**YOUR BEST  
SCOREBOARD  
BUY...**

**Naden**



N-555—the value leader of all basketball scoreboards—illuminated 30" dial, Home and Visitors Panels—automatic reset horn—12" red "Instant-View" numerals—Green bullseye period indicators and signal lights. Write for details.

For information on the complete Naden line, ask for Catalog 15, Basketball; 25, Football; 35, Baseball.

**NADEN INDUSTRIES**  
Webster City, Iowa



## New Books on the Sport Shelf

- **PLANNING FACILITIES FOR HEALTH, PHYSICAL EDUCATION AND RECREATION** (Revised Edition). By National Facilities Conference. Pp. 154. Illustrated—photos and blueprints. Chicago: The Athletic Institute. \$2.50.

ORIGINALLY published in 1946, this book has sold out eight printings (25,000 copies) in the past 10 years! In view of the many new needs and developments—as defined by the Second National Facilities Conference last May—it has now been completely overhauled. And the new edition is vastly superior to the original.

Included in the 1957 edition are the latest ideas on the functional development of all types of sports areas, playgrounds, parks, stadiums, camps, gyms, pools, rec buildings, health units, and athletic fields. Also: detailed data on heating, lighting, painting, traffic flow, seating, floodlighting, ventilation, surfacing, equipment, and space requirements.

The book is magnificently illustrated with photos and sharp, detailed blueprints, and is absolutely guaranteed to help everyone concerned with the functional planning of athletics, recreation, and physical and health education.

- **HOW TO IMPROVE YOUR TRACK AND FIELD.** Consultant, Don Canham. Pp. 66. Illustrated—photos. Chicago: The Athletic Institute. 50¢.

NO. 12 in the Institute's self-improvement sports series, this step-by-step picture book thoroughly analyzes 10 events—sprints, hurdles, distance and relays, high jump, pole vault, discus, shot, javelin, and broad jump. The basic fundamentals are described in minute detail, along with suggested daily training programs.

The caption analyses are thoroughly authoritative, thanks to Michigan's famous Don Canham, and can be studied with benefit by every coach and athlete.

Tied in with this book is a new 35-mm. full-color sound slidefilm, *Beginning Track & Field*, covering the same events as above. For full details on The Athletic Institute's sports series, address the Institute at 209 S. State St., Chicago 4, Ill.

- **SO YOU WANT TO BE A SPRINTER.** By Lloyd C. (Bud) Winter. Pp. 48. Illustrated—drawings. San Francisco: Fearon Publishers. \$1.65.

HERE'S an excellent little handbook on sprinting that covers the subject from start to finish in a highly attractive, easy-to-read fashion. All the instruction is projected in unusually

large type and illustrated with large, free-line drawings—an arrangement that makes for great simplicity of study. Besides the fine instructional tips, the book contains some good material on exercises and a daily training schedule.

### Miscellaneous

- **The Trainers Bible.** By S. E. Bilik. Pp. 385. Illustrated. New York: T. J. Reed & Co. \$4. (A wonderfully practical handbook for the coach and/or trainer, covering absolutely every injury in the book. This is the ninth revised edition since 1916.)

- **Skiing Illustrated.** By John and Frankie O'Rear. Pp. 96. Illustrated. New York: A. S. Barnes & Co. \$3. (A heavily illustrated guide for the young skier.)

- **Free Diving.** By Dimitri Rebikoff. Pp. 224. Illustrated. New York: E. P. Dutton & Co. \$5.75. (Complete guide to the sport of underwater exploration through use of self-contained breathing apparatus.)

- **Basic Rifle Marksmanship.** Pp. 32. Illustrated. Washington, D. C.: National Rifle Assn. (Beautifully illustrated, information-jammed booklet on the background and technique of rifle shooting.)

- **Ski New Horizons.** By Roland Palmedo. Pp. 230. Illustrated. New York: A. S. Barnes & Co. \$4.95. (Guide to all ski trails, accommodations, travel tips around the world.)

- **Boots and Saddles.** By J. K. M. Ross. Pp. 272. Illustrated. New York: E. P. Dutton & Co. \$7.50. (The story of the fabulous Ross stable in the golden days of racing.)

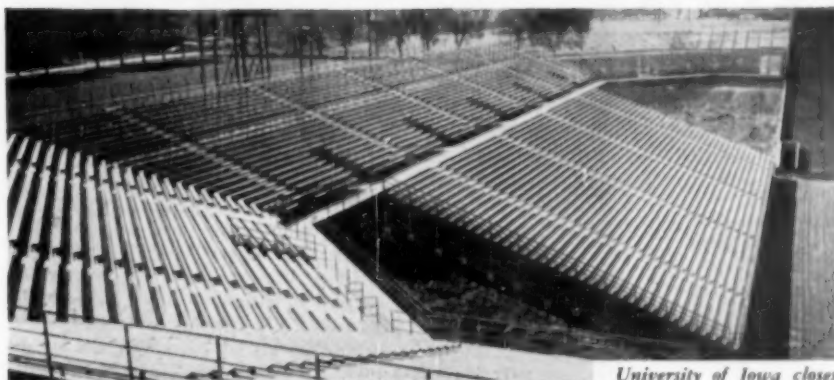
- **Badminton (Know-the-Game Series).** Pp. 40. Illustrated. 75¢. (Beautifully put-together instructional booklet on every phase of the game. Available from SportShelf, 10 Overlook Terrace, New York 33, N. Y.)

- **World Basketball News** is a new international slick-paper magazine containing general and technical coverage of the game. Each issue sells for 50¢. Order from SportShelf, 10 Overlook Terrace, New York 33, N. Y.

- Also available from Sport Shelf are the following British publications: *Playfair Rugby Football Annual*, \$2.50; *Playfair Soccer Annual*, \$1.50; *Official F. A. Year Book*, \$1.50; *Spectator's Handbook* by J. B. Pick, \$3.75; *Miracle of the Mile* by Bill Nankeville, \$3.25; *Badminton (Know Game Series)*, 75¢.



# For Your Complete Stadium, Addition or Portable Seating—Safway 'DE LUXE' Steel Bleachers



## FULL SPECTATOR SAFETY AND COMFORT TO 55 ROWS; LIFETIME CONSTRUCTION

DE LUXE SEATING for a wide range of events can be provided economically with Safway "De Luxe" tubular steel bleachers.

This equipment is practical for complete stadia seating many thousands, or for additions to existing facilities (see photo). Made in easily demountable standard parts, it can also be re-used for temporary set-ups of any size and form—outdoors or inside.

Safway provides good vision from every seat, ample leg-room, easy climbing and complete safety.

Investigate Safway "De Luxe" bleachers—submit job details for recommendations (no obligation).

See Safway bleachers and telescoping gym seats at the AASA Convention—Booths 1433-35-37.

## SAFWAY "DE LUXE" BLEACHER ADVANTAGES

- ★ **LOADS AND SHOCKS DISTRIBUTED** evenly by unified, interconnected steel structure (no independent towers).
- ★ **SPECTATOR COMFORT AND VISION** assured by 8½-in. rise-per-row, 17-in. seat height and 24-in. back-to-back distance.
- ★ **EASY ASSEMBLY BY YOUR PERSONNEL.** Only 7 types of parts, assembled with simple coupling pins and wing nuts. No tools needed.
- ★ **LONG-LIFE CONSTRUCTION.** Made from high tensile structural steel tubing with weatherproofed baked enamel inside and out.

University of Iowa closes end of stadium with this new 12,000 seat addition of Safway "De Luxe" steel bleachers. Corner sections to be filled in later.

# SAFWAY

STEEL PRODUCTS, INC.

6220 W. State St., Milwaukee 13, Wis.

the 1956  
**U.S. OLYMPIC SWIMMING TEAM**

IS COMPLETELY OUTFITTED BY  
**OCEAN POOL SUPPLY CO.**

From head-to-toe, and accessories too... the complete Men's and Women's Olympic swimming squads are equipped with OCEAN POOL!

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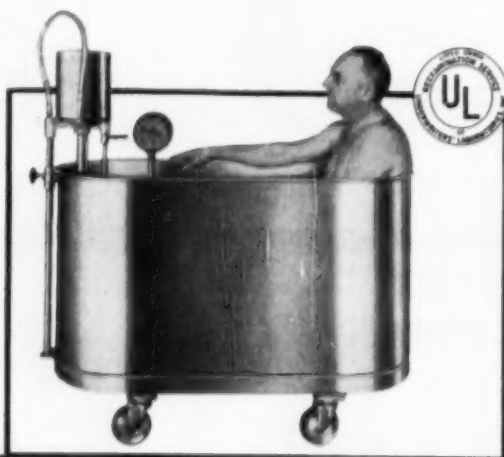
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## Do-It-Yourself Equipment

(Continued from page 16)

either end with a cross-piece at the bottom and put casters at the four corners so that the board can be easily rolled in and out of the storage room.

This rack accommodates 80 helmets.

**RUBBING TABLE:** In building a rubbing table, we decided 32" would be about the right height, with a top about 2' wide and 6' long. For a top, we used 5/4 maple with a 1 x 3 railing or frame-work underneath. For legs, we used 2 x 4s tapered down to 2" at the bottom and bolted at the top to the frame work.

Angle braces were added on the sides from the center of the frame work and bolted to the lower part of the legs. A shelf was added at either end.

We padded the top with 1" foam rubber and surfaced it with a red plastic cover.

**TRACK-RECORDS BOARD:** In constructing a track-records board such as ours, two factors are important—labor and materials. Our cost came to approximately \$40.

Student labor was used. Two good industrial arts boys were released from the study hall during the woodshop instructor's lunch hour. The latter supervised the work with ideas, but did not work on the actual construction.

The body of the board is maple plywood 1/2" x 4' x 8'. The frame is solid walnut 1" x 4". The letters were cut from 1/4" walnut plywood and stained with walnut, while the slides were cut from solid maple 1/2" x 1 1/2" x 22".

**WHIRLPOOL TABLE:** Another item of tremendous use is our home-made "Horseshoe Table" for the whirlpool bath in our first-aid room. This table triples the number of boys that can safely be accommodated in the whirlpool at one time—an especially valuable feature for schools having but one whirlpool at their disposal.

The table was built around a Dakon whirlpool, which has been giving us excellent use. The fact that so many boys can be accommodated at one time has accelerated our training program.

To make this horseshoe table, we started out with a piece of 3/4" plywood, 41" wide and 32" long. We laid this piece of plywood on top

of the tank and marked out the radius. We then took it to the band saw and sawed out a horseshoe shaped top about 10" wide.

We added five pairs of legs and braced the legs well to support the weight of at least four students. All the wood was painted to keep it from getting water-soaked.

## Fieldston's Windowless Gym

(Continued from page 24)

shipped across the country from Portland, Ore.

Inside walls throughout the rest of the building are of cement block on a  $\frac{1}{8}$ " asphalt tile base, except for the shower and toilet rooms which have glazed tile to the ceiling.

A total of 381 double-tier lockers are provided on two floors for the 297 boys who use the gym. The main locker room on the floor below the gym has 171 lockers. In the adjoining basement of the auditorium building are the 210 other lockers, which are assigned to the Middle School boys (7th, 8th, and 9th grades) with a number reserved for visiting teams.

Locker rooms are floored in asphalt tile, with sound-absorbent ceiling of perforated aluminum. These are also used in the two shower rooms, 10' x 16' 9", which have eight shower heads each, and in the two toilet rooms, one on each floor. Floors in the shower and toilet rooms are of non-slip vitreous ceramic tile.

Other floors throughout are of asphalt tile, except in the stair hall which has cement and asphalt tile. Ceilings are of concrete except in the gym, locker and shower rooms.

The gym office, 14' 4" x 9' 2", is also ceiled in aluminum. A store room off it measures 7' x 9' 2".

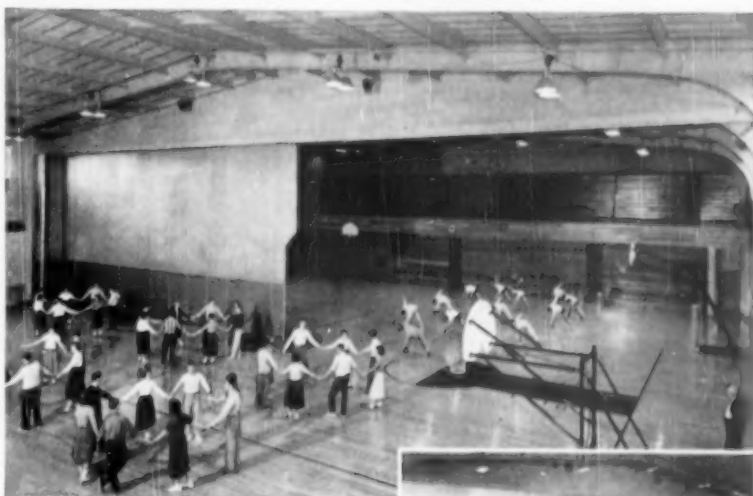
The plans call for six rows of retractable seats which may be drawn back to occupy the space of only two rows along two walls when not in use. They'll seat a total of 756 spectators.

Because of the necessity of staying within the original budget, these have not yet been installed, but it's hoped that they'll be added before the close of the present winter season.

In addition to basketball, the gym will also be used for volleyball, badminton, indoor softball, floor hockey, relay races, mass games, boxing, wrestling, tumbling, and possibly tennis.

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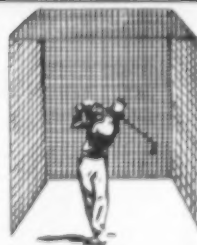
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# How to Build a Track

(Continued from page 14)

structed college tracks have used, with good results, a top dressing consisting of two parts fine cinders and one part black loam (or peat). This type drains quickly, has excellent resilient binding qualities, and will not bake like clay.

The use of a heavy roller should be avoided on any type of dressing as it affects the resilience of the surface. A half-ton (or less) roller is best.

**Curb (Concrete, Wooden, or Iron):** The services of a civil engineer are necessary when a track curb is being laid, in order to insure correct measurement. A track must conform to NCAA or Olympic specifications before a record will be accepted.

The curb may be made of cement, wood, rope, iron, or other durable material which extends 2" higher than the track surface. The curb always is set 12" inside the measured track and always should be put in before the track is filled with material. Curbing on the outside of the track is desirable but not necessary.

Generally, concrete or creosoted wood (2" x 6" placed on edge in the ground) is used in curb construction. The concrete is expensive, but is neater and more durable. The concrete curb should extend below the bottom of the track and should be laid on 6" of sand or cinders to prevent buckling in cold weather. It should be 5" thick and at least 24" deep, deeper in northern climates.

The concrete curb should be flanged at the bottom and each section should be at least 16' long, reinforced with 1/4" iron rods, one at least 2", the other 6-8" beneath the track surface. Both edges of the top should be rounded. The curb should extend 2" above the track surface.

**Scuppers (Drain Stations for Surface of Track):** For speedy drainage of surface water on the track, it's wise to place scuppers (small openings) every 100 to 150' through the concrete curb 2" below track level (or 4" below the top of the curb). Behind each scupper, excavate to the inside of the drain pipe and place a 4" tile or iron

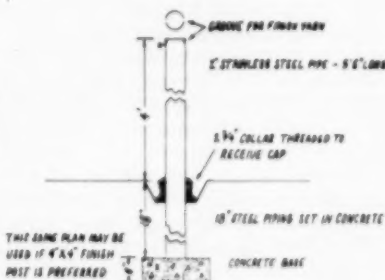
pipe which connects to the lateral drains.

These outlets in the curbing permit surface water to run off and thus prevent water from standing or depressions from forming.

If the surface of the track is higher than the surrounding area, drain pipe connections aren't necessary. The openings should be marked on the curb so that they may be found easily when there's need to drain off surface water.

## STARTS AND FINISHES

**Markers (Starts, Finishes, Posts):** Bronze markers or stainless steel plates should be set in the cement curb to indicate the start and finish points of all races. Location marks for setting up the hurdles and offsets for relays should be painted on the curbs to facilitate lane marking for all races.

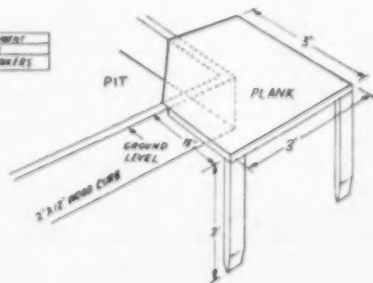
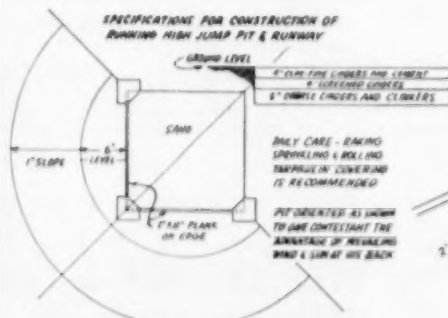


Finish posts set in concrete boxes.

Finish posts, 4' in height, should be set in concrete boxes placed outside the curbs. The posts should be removable, and the boxes should be covered when not in use.

All distance runs should be measured with a steel tape 12" outward from the inside curb.

All straightaway races must be measured in a direct line from the starting line to the finish line. These lines must be clearly marked on the track perpendicular to the course to be run and should be 2" wide.





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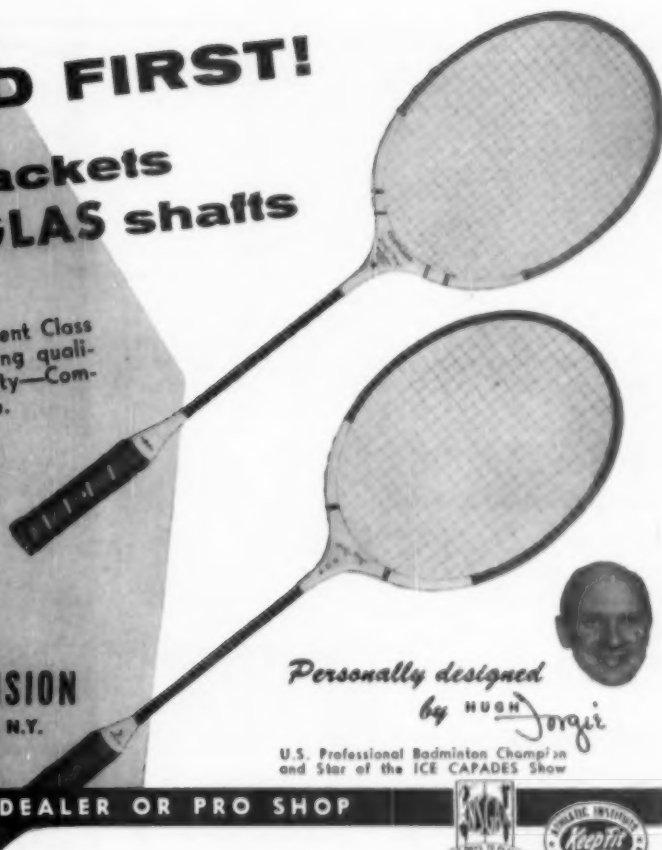
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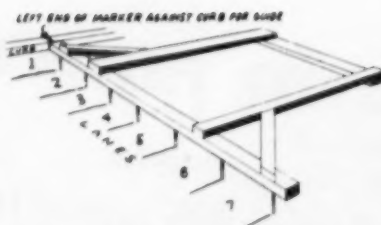
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Since the marked starting line must be just within the measured distance of the course, no competitor may touch the track with any part of his body on or ahead of this marked line. The line at the finish must be just outside the measured distance.

Lanes for sprint races should not be less than 36" in width. A width of 42 or 48" is preferred, however. The left-hand boundary of a lane must be marked so that it is outside the runner's lane.

**Lane Markers:** A marker to indicate track lanes is easily made from a 2 x 4, 12 to 16' long, with a 1 x 2 frame handle attached to it for pulling, with adjustable spikes projecting through at 3", 3½", 4", or any desired



Marker to indicate track lanes with left end against curb for guide.

intervals. The curb which extends 2" above the track serves as a guide for one end of the marker.

The lines are scratched on the track, then marked with lime.

## TAKEOFFS, RUNWAYS, CIRCLES, AND FIELD AREA

Improved performances in the field events generally can be attributed to better approaches, better takeoffs, and better footing in the circles.

The life of runways and circles is dependent upon the foundation and materials used in construction. Runways or approaches for the pole vault and the jumps should be constructed of the same material and in the same three-layer manner as the running track. However, more clay should be added to the top layer surface to provide better footing.

It's also advisable to build up a slight crown to these surfaces to provide better drainage. However, it should be remembered that the actual takeoff area must be flat and level with the takeoff board in the broad jump and the base of the standards in both the pole vault and the high jump.

The field events should be arranged so as to avoid running into the sun or against the prevailing direction of the wind. It's common practice to provide approaches from two directions by placing the vaulting pit in the center and a broad jumping pit at both ends.

Curbed runways aren't desirable because the curbs present a football and baseball hazard and hamper the use of a field roller.

**Broad Jump Approach:** The approach distance for the broad jump should be about 120' (the run is unlimited), while the width of the path should be 4'. The takeoff board must be a joist, 8 x 8", and at least 4' long, which should be set firmly in the ground on the same level with the runway and should be painted white. The ground in front of the scratch line (the edge of the board nearest the pit) must be flush with the scratch line. Two 2 x 8" planks nailed together sometimes are used.

**The Running Broad Jump Landing Pit** should be placed about 10 or 12' from the takeoff board. It should be 18' long and at least 6' wide. It must have an elevation the same as that of the takeoff board.

The pit should be 18" deep and enclosed with a wooden curb painted white and set flush with the ground. It should be filled with builders' sand up to a level with the takeoff board.

**High Jump Approach:** The approach, or runway, for the high jump should extend out from the side of the pit, fan-shaped on a 16' radius so that jumpers can approach the bar from any direction in front of the standards. The actual takeoff area (approximately 15') should be level.

In constructing the high jump takeoff, the three-layer plan should be used as in the other runways with one exception—the top dressing (3") should be composed of the best available clay.

To provide better drainage, the outer half of the approach should be sloped away from the pit, and clay

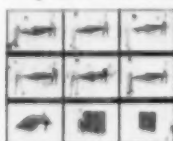
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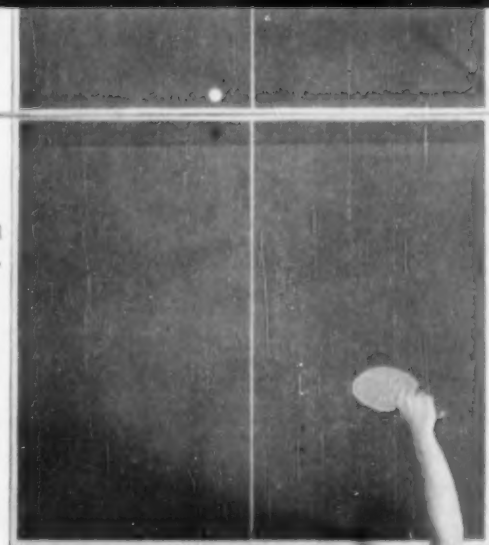


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takeoffs should be spread lightly with fine cinders or portland cement.

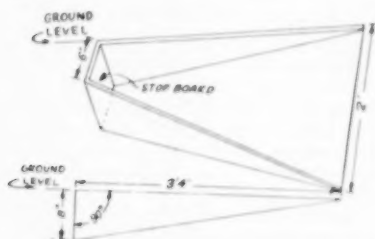
**High Jump Landing Pit:** Official rules state that the high jump pit must be at least 16' in width and 12' in length. However, many injuries can be avoided if the pit is made 16' in length. The pit should be at least 12" in depth and should be filled with builders' sand or wood shavings, preferably sand.

(See page 58 for specifications for construction of pit and runway.)

**Pole Vault Approach:** As in the running broad jump, the pole vault runway should be long enough to enable the vaulter to build up speed in his approach. The runway should be 130' long and approximately 4' wide, built of the same material and in the same manner as the track. Runways from opposite directions are essential.

**The Pole Vault Landing Pit** should be 16' wide, 14' long, 2' deep and filled with soft wood shavings 2 to 3' deep. Indoors, where a pit cannot be dug, a temporary landing pit can be constructed of stuffed burlap bags with the hollow square filled with soft wood shavings or sawdust.

**Pole Planting Box:** The official rule book recommends that the pole planting box be of wood or metal. This box should measure 3' 4" in length, and 2' in width at the front, tapering to 6" in width at the stop board, which should be 8" deep. The box shall be so placed that the top edges of the front, sides, and stop board will be flush with the ground and the landing pit.



Planting box for the pole vault.

**Weight Circles Footing Areas:** In constructing the footing areas for the weight events, both subsurface and surface drainage, as well as firmness of area, should be considered. The footing area 12' by 10', should be excavated to a depth of 12" and then built up in three layers as follows:

1. 4" of crushed rock or coarse gravel on the bottom.
2. 4" of cinders in the middle.
3. 4" of top dressing material composed of one part cinders and one part clay.

All layers should be well packed; and by making the area 12' by 10', the competing circle itself is easily moved about within the area to provide new footing.

By mixing portland cement with the top dressing of clay and cinders, solid footing and simplicity of maintenance are insured. Some institutions use black top surfaces, 4 to 6" in



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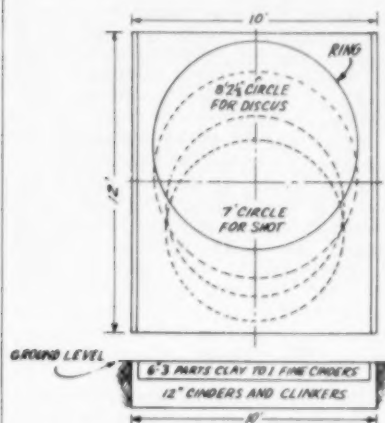
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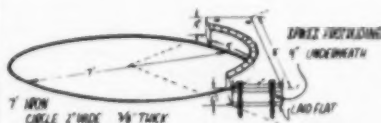
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depth, for both indoor and outdoor areas. However, a hard clay surface always is preferable. This is the approved type for the Olympic games.



Footing area for weight events.

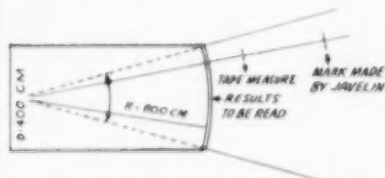
**Shot-Put Circle:** The official rules call for a 7' circle of inside measurement enclosed by an iron or wooden band. A wooden toe or stop board, 4' high, should be placed on the circle and extended 4' along the circumference.



Shot-put circle and stop board.

The ground on which the shot falls should be of clay or loam and on a level with the circle. The circle and the stop board, or toe board, should be painted white. A 7' circle also is required for the 35-lb. and 56-lb. hammer throw events.

**Discus Throw Circle:** The discus is thrown from a circle having a diameter of 8' 2 1/2" (2.5 meters). The circumference of the circle should be marked by an iron or wooden band sunk flush with the ground. No toe or stop board is used.



Run-up area for the javelin.

**Javelin Throw Approach Area:** The approach area needs no special construction. It may be turf or bare ground. The run-up (or runway) must be marked by two parallel lines, 13' 1 1/2" (4 meters) apart. The throw is made from behind an arc of a circle drawn with a radius of 28' 3" (8 meters). Such an arc should be marked by a board or metal strip, 2 3/4" (7

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centimeters) in width, painted white, and sunk flush with the ground.

#### CARE OF THE TRACK

**Daily Upkeep:** Daily maintenance is necessary to keep a running track smooth, level, firm, and resilient.

**Raking or scarifying:** First operation in daily care of running tracks is raking. This may be done with a garden rake or by using an improvised drag which is made by driving spikes through a 2 by 12" plank, 3' or more long. The spikes should be staggered, and the weight should be made adjustable by adding weight on the top of the plank. The track should be cross-raked once a week.

**Brushing:** Chief purpose of brushing is to fill spike holes. Fiber barn brushes, fairly wide, are best for this work.

**Floating:** Leveling and planing are accomplished by dragging a sharp metal door mat (shoe scuffer), 6 by 6', around the track. This levels high places and fills low spots.

**Rolling:** Heavy rolling should be confined to early spring. During the regular season, the track should be rolled with a light roller. (Not more often than once a week.)

**Sprinkling:** The amount of moisture must be controlled. Water pipes with taps every 100' should be provided along the inside of the curbs so that the track and runways can be sprayed as desired.

An application of calcium chloride to the track is desirable because it helps hold the moisture and also prevents high winds from blowing away top dressing.

Many leading colleges now use a light gasoline truck or roller equipped with rakes, drags, and brushes.

**Top Dressing:** A thin layer ( $\frac{1}{2}$ " ) of top dressing should be worked into the surface of the track each year. This should be applied in the fall so winter rains and snow can settle it.

It's best to have available a supply of this surface material to fill depressions which appear after a rain.

**Resurfacing:** A new 2" or 3" top dressing should be laid on a track every five or six years, since in that time a track becomes packed, losing its recoil, or bounce. The following steps in resurfacing a track should be observed:

1. Brush to one side all fine dead cinders or dust.

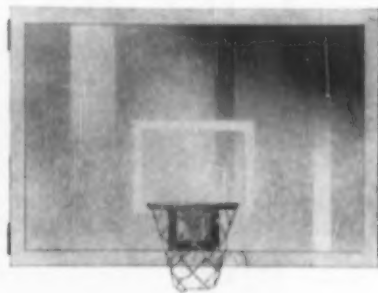
2. Use a farm disc or roto-tiller to cut through the packed cinders to a depth of 2 or 3" so that the surface water will drain through.

3. Apply a top dressing of 2" from a mixture of four parts cinders and one part of light clay. Screen this material through a  $\frac{1}{4}$ " mesh, then harrow or rake this top dressing into the track surface thoroughly.

4. Level or float this application. Also spray fine cinders lightly on top. Resurfacing of a track should be done in the fall so that the winter snow will help settle it.

In order to get better surface drainage, Larry Snyder, Ohio State track

*Yours for increased seating capacity,  
livelier rebounds, greater spectator enjoyment!*



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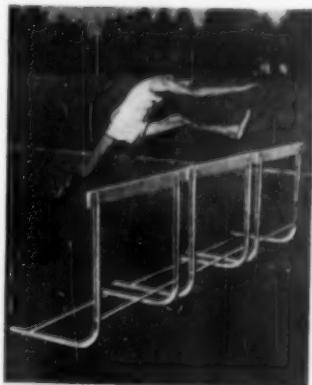
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BARABOO, WIS.

NEW YORK STATE REPRESENTATIVE: Vern Volland, 19 Fairchild Drive, Eggertsville 21, N. Y.

coach, resurfaced his track with clinker cinder which had been ground to  $\frac{1}{8}$ ". A 2" layer of this fine material without additional binder was placed on the track, disked into the track, raked, and floated.

Gordon Fisher, Indiana track coach, used this method in resurfacing his track:

First, all old dead cinders and dust were removed. Then a 2" layer of  $\frac{1}{2}$ " screened cinders was applied. On this was placed a top dressing layer of 2", consisting of four parts  $\frac{1}{4}$ " screened cinders to one part of light clay. This was spread uniformly over the cinder surface and carefully and thoroughly raked into the cinders.

## Student Work Party

(Continued from page 28)

10. At the end of the day session, hold a "debriefing" to survey the results of the work, to make sure all tools and supplies are accounted for, and to ascertain if the area is clean, neat, and ready to leave.

### POST-PARTY ARRANGEMENTS

A Final Arrangements committee should be appointed to return items borrowed from non-participants, write thank-you letters to outsiders who helped or loaned equipment, and to handle unexpected matters that may result from the event.

### GENERAL SUGGESTIONS

1. Start early and finish by mid-afternoon so that the participants may go home, clean up, and relax before returning in the evening.

2. Make sure the project undertaken can be finished. If it is not, the sense of accomplishment will be dulled.

3. Require proper clothing to be worn. If the party is held in the summer, sunburn and heat exhaustion must be guarded against. A hat is very essential in the hot sun.

4. Get the help of the industrial arts or agriculture teachers if possible.

5. Make safety always first! Avoid dangerous jobs. Take adequate precautions against accidents. If tractors or power tools are used, make sure they're handled only by experienced and responsible operators.

6. If school insurance doesn't cover the event, take out a special short term accident and liability policy.

7. Have enough adult supervision, but not too much. Let the students feel that it's "their show."

8. Don't have the work-party on a holiday. There'll always be items that must be obtained at the last minute from business firms.

# Planning the Fieldhouse

Excerpted from *Planning Facilities for Health, Physical Education and Recreation* (see page 54 for review)

**T**HE primary function of the fieldhouse is to provide indoor facilities for outdoor activities. It's not a substitute for the gym, but a complement and supplement to other facilities.

There are two general types of fieldhouses: those used exclusively for the physical education program and those which combine the above use with interscholastic contests open to the public.

Since the fieldhouse usually will serve many purposes, it's important to employ cooperative planning. In the early planning stages, suggestions should be obtained from school or community persons likely to be involved in the use of the completed building.

Activities conducted in this structure may include the following: general physical education instruction, school classes, and practice in football, track and field, baseball, tennis, soccer, lacrosse, and other sports. If there's a hardwood basketball court in the fieldhouse, this sport may be practiced and regular games played there. Fieldhouses with spectator accommodations may be used for demonstrations and exhibitions, commencements, meets, tournaments, band concerts, and the like.

Ideally, the fieldhouse should be located adjacent to the gym. A common wall may thus be shared in the interest of construction economy, and the gym, shower and locker rooms as well as toilets and lavatories will be readily accessible.

**The size and shape** of the fieldhouse should be determined by a careful study of its functions. If spectator space isn't a consideration, it can be much smaller than otherwise. If an eight- or ten-lap track is to be included, the building will be rectangular in shape. When neither track nor spectator accommodations are provided, the building can be more nearly square with less ceiling height.

Within the space surrounded by an eight-lap track, the following facilities can be included: a temporary hardwood floor on which basketball, tennis, volleyball, and gym activities may be conducted; broad-jump, high-jump, and pole-vault runways and pits; a shot-put area; and an area for baseball throwing and catching and limited infield practice. These facilities should be located so that there's a minimum of interference between groups.

If possible, a 60' straightaway for track should be provided, with adequate safety distances for starting and stopping. A wide door at the end

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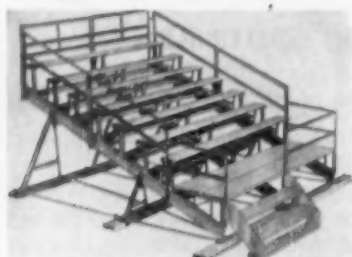
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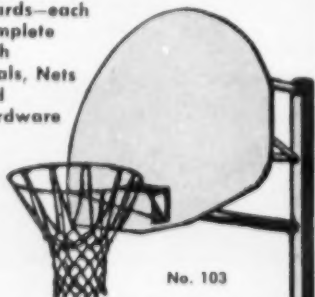
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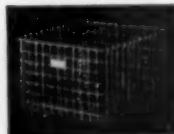
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of the straightaway to permit runners to continue running outside the building, will prevent injuries and eliminate mental hazards caused by limited space. A track width of six regulation lanes is desirable.

A portable or permanent hardwood floor, or spectator accommodations, needn't be included if the school gym is adequate in these respects.

Whether the fieldhouse is to be used primarily as a physical education and activity program building, or one which will also include spectator sports events, will influence the general building features.

The entrances and exits should be sufficient to handle peak loads and should comply with local and state fire regulations. Entrances should be as convenient as possible to parking facilities and traffic approaches. The main lobby should be large enough to accommodate anticipated crowds seeking tickets and admittance. This is particularly important in northern states. The lobby should be designed for ticket sales and collection so that the traffic will flow in a straight line, or nearly so, from entrances to box offices to ticket collectors.

Entrances for participants should be separate from those for the general public. Such entrances should be arranged so that they may be easily policed. The general public should not have access to locker-room entrances.

The fieldhouse should have adequate service entrances wide and high enough to admit tractors, trucks, vans, portable permanent bleachers, and the like. Generally, service entrances should be accessible to the street, but shouldn't be used as student or public entrances.

**Floor:** In a fieldhouse, the floor should be earthen. Various combinations of clay, sand, cinders, loams, and peat are used in floor construction, the latter two being moisture retainers. Cinders are used sparingly. The earthen floor should be kept damp to prevent dust and should be reworked (harrowed) frequently to maintain smoothness and flexibility.

The temporary hardwood floor is an expensive feature in a fieldhouse. It must be constructed in sections placed on footings in the earthen floor, fastened together, and should frequently be refinished. Provision should also be made for dismantling and storing it in the fieldhouse at the season's conclusion.

**Lighting, Heating, Ventilation and Acoustics:** Daylight should be utilized as much as possible, but windows should be designed to prevent interference of sunlight with player performance at any time during the day. This is an important safety factor. Walls and ceilings should be of light color. In a high building, catwalks or ladder approaches may be necessary for servicing lights hung from the ceiling or roof.

Condensation problems should be given major consideration, particularly where there are extremes in temperature, when sprinkling of sur-



face or earthen areas is required, and where large crowds witness events. The re-absorption of excess condensation may be accomplished by the circulation of warm air in addition to fixed radiation. Adequate means should be provided to supply fresh air and to exhaust foul air. The walls, both inside and outside, should be impervious to vapor pressure.

Acoustical consideration is important inasmuch as the use of the public-address system will be significantly affected by it. The construction of vast, flat, and smooth wall or ceiling spaces without acoustical treatment should be avoided.

Technical lighting, heating, ventilating, and acoustical problems should be referred to specialists.

In addition to these general building features, numerous special or service building features require attention in planning the fieldhouse. Some of these apply to participants and others to public or spectator use. The omission or underestimation of these features can mean the difference between partial and nearly complete utility of the fieldhouse.

**Locker, Shower, and Training Rooms:** The extent of these service units will depend on the possibility of using those of the gym. It's convenient and economical to do so if the fieldhouse adjoins the gym. In such cases, a connecting passageway from the gym locker room to the fieldhouse floor is essential. If the fieldhouse isn't adjacent to the gym, consideration should be given to the erection of a small building attached to the fieldhouse, with dressing, shower, and toilet facilities, rather than using space in the big structure which might be utilized more advantageously for activity units.

If the fieldhouse is to be used for tournaments, indoor meets, or events involving large numbers of participants, and other school facilities are inadequate or too distant, consideration should be given to the provision of separate locker rooms, with adjoining shower and toilet facilities, in the service-unit building adjoining the fieldhouse. These units can be used regularly throughout the school year for physical education activities, as well as by other groups.



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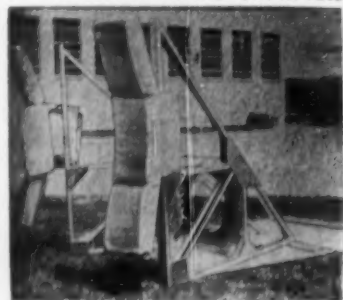
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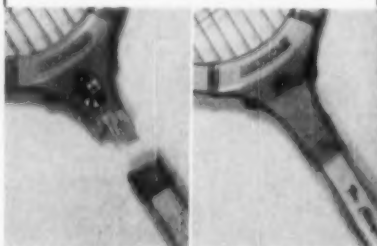
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A dressing room with adjoining shower and toilet facilities should be provided for staff members. These accommodations may also be used by contest officials. Again, if other school facilities cannot be used, there should be provision for training rooms in this service unit.

The locker, training, and toilet rooms should be well ventilated. Sunlight should be utilized as much as possible in the locker-training room unit.

**Storage Space:** Sufficient storage space should be provided to accommodate physical education and maintenance supplies and equipment. If necessary, equipment rooms and cages for issuing and storing supplies and playing equipment should be provided. If such facilities are available in the gym unit, they should be used to the fullest extent.

In the fieldhouse proper, there should be provision for storing off-season equipment in a manner that won't interfere with the general utility of the building. Provision should also be made for the locking of rooms or areas where valuable equipment is to be stored.

**Toilets and Rest Rooms** should be in close proximity to the seating areas of the fieldhouse. They should be accessible from the interior of the fieldhouse itself and not be located so that patrons must go into the lobby and beyond the place where they surrendered their admission ticket. Rest rooms adjoining the lobby are desirable, but there should be others accessible from the arena. Toilets should also be provided on each level where traffic moves horizontally rather than be placed off stairways.

**Concession Booths:** When the fieldhouse is to accommodate large crowds, concession booths should be constructed so they're accessible without blocking spectator traffic. Ideally, they should be equipped with electric or gas stoves, sinks, running water, and sewer connections.

**Press, Radio, and Television Facilities:** Space for these facilities should be adequate and away from the crowd to allow an unobstructed view of the playing area. Telephone, television, and press service outlets should also be located in the building. Soundproof broadcasting and television booths should be provided when the fieldhouse will be used for attractions of considerable public interest.

**Balconies and Bleachers:** When permanent balconies are planned, they should be constructed without supporting pillars which interfere in any way with the playing or visual area. Balconies should be served by ramps or stairs which connect directly, or by means of wide corridors, with convenient entrances and exits. Temporary, roll-away, or portable permanent bleachers, when placed in front of the permanent balconies, should continue the sight lines of the balconies. These sight lines should enable all spectators to see the entire playing area.

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## "Here Below"

(Continued from page 5)

a size-up of those two famous "goon" centers capsules the argosy of the sport in the ensuing 22 years. King Kong Klein "towered" 6-2, while Peters tipped the tape measure at 6-4!

The only league in which those boys could have played center today would be Biddy Basketball.

Like Topsy, the hoop game has just "grewed" and "grewed." And nowhere is this more evident than in the center circle. If Goliath or the Giant that Jack killed were alive today, chances are they could stroll down Broadway without attracting a second glance. "Just a couple of basketball players," would be the general thought.

The gargantuan growth of the boys in short drawers is clearly reflected in the rosters of our 280 larger colleges and eight NBA (pro) clubs. Blame it on vitamins or atomic energy or spinach or something. But the hoop "woods" are jumping with giraffes. The 6-6'ers, in fact, aren't even worth flushing. They're simply too common.

Even the once-awesome 6-7 species is plentiful. Our survey reveals 71 players of this height in college ball. Measuring in at 6-8 are 48 players. And at a brooding-nagian 6-9 are 24 more!

The select list, by modern standards, must start at 6-10—and there they are in the accompanying box for your "ooh" and "ahh" approval.

### COLLEGE BASKETBALL CLOUD-HOPPERS

Player and College	Ht.
Tom Cushman, Baldwin-Wallace	6-10
Steve Mrkwicka, Loyola (Chicago)	6-10
Hub Reed, Oklahoma City	6-10
Temple Tucker, Rice	6-10
Ellis Olmstead, Texas	6-10
H. E. Kirchner, TCU	6-10
Lloyd Sharrer, West Virginia	6-10
John Warris, Regis (Colo.)	6-10
Billy Hathaway, No. Carolina	6-11
Bob Seitz, No. Carolina St.	6-11
Lavelle Langston, Northwtn. St.	6-11
Marvin Seat, Vanderbilt	7-0
Gary Nelson, Washington	7-0
Wilt Chamberlain, Kansas	7-1

In our survey of the collegiate rosters, we came across such gigantic tidbits as "Oklahoma A. & M. should return to the top ten this year, thanks to three 6-8 sophomores," and "The Cowboys (Hardin-Simmons) have no less than six men who stretch 6-6."

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Ball-bearing rubber-tired wheels

Knockdown for shipping and storage, also gym use in winter

Also: Porta-Weld Jr., slightly smaller, patented; Ball-protector on wheels or set in sleeves; Standard spear point permanent backstop

Write for illustrated brochure.

**AUSTIN FENCE CO., Inc.**, 701 Bedford Ave., Bellmore, N. Y.

## Basketball Timers and Scoreboards



MODEL 250-4

Has all the new features:

- Synchronized Flasher-Timer
  - Electric Numbergrams
  - All Units on Separate Connectors
  - Loud Horn Vibrator Type
  - Translucent Team Names
  - Remote Control
- Overall size 72" x 34" x 6", numbergrams 6½" x 10", letters 5" high

Other Models Also Available. Immediate Delivery

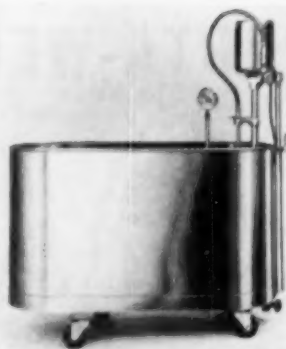
**M. D. BROWN CO.**  
EAST LAKE STREET, NILES, MICHIGAN



# WHITEHALL

## The One and Only WHIRLPOOL BATH

### With These 6 Big Features:



- ★ ONE MOTOR MOBILE UNIT
- DOUBLE-ACTION-VALVE
- SPEEDY & SIMPLE OPERATION
- HIGH PRESSURE JET
- CONTROLLED PRESSURE
- SOLDERLESS TANKS

★ Put this unit to work within ten minutes after unpacking . . . no special installation necessary . . . turbine assembly acts as both agitator and emptying device . . . empties faster . . . all operating parts in a single motor driven system . . . tank is filled from and emptied into a sink . . . raising and lowering device permits height adjustments quickly, easily.



Write Dept. SC-1

**The Whitehall Electro Medical Co., Inc.**  
19 WALL STREET • PASSAIC, N. J.



A great percentage of all athletic injuries are dental injuries, and by far, the greatest number of these are sustained in football.

Those are the simple facts according to published statistics by the Security Life and Accident Company of Denver, Colorado.

But here are NEW and AMAZING facts since the introduction of FEATHERBITE, the safest mouth protector ever devised to protect athletes in contact sports...



WHEN FEATHERBITE MOUTH PROTECTORS WERE USED the incidence of dental injuries fell to 1 out of 3600. Comparatively speaking, the teeth of an athlete protected by Featherbite are 722 times safer.

### HERE ARE THE FACTS ABOUT NEW AND IMPROVED



1. Prevents Teeth getting chipped, broken or knocked out
2. Gives \$250.00 Insurance Policy without charge
3. Won't interfere with Breathing or Speaking
4. Personally fitted around each tooth

Available at your Sporting Goods Dealer

Manufactured by **FEATHERLAX Corp.** Melrose Bldg., Houston, Texas

Skipping over to the pro side of the court, a survey of the eight teams reveals enough height to scale Mt. Everest. Of the 100 players listed in the pre-season rosters, only 3 are under 6 feet. About half—or 45, to be exact—tip in at 6-6 or over! 12 are 6-6, 9 are 6-7, 11 are 6-8, 9 are 6-9, 1 is 6-10, 2 are 6-11, and 1 is 7 feet!

When you remember that the trend is definitely ceiling-ward, you begin wondering—where do we go from here? Now there's a plot for a science fiction writer!

**WE DON'T** know whether it's a cause or an effect of the building boom, but our schoolboy varsity programs are winging along very nicely. "Nicely" is putting it mildly. Marvelously is more like it.

Look at the progress made by varsity sports in the last ten years:

	—1946—		—1956—	
	No. Schools	% of Total	No. Schools	%
Football	7,484	39.7	9,694	49.5
Basketball	17,024	89.0	18,639	95.2
Baseball	5,236	27.7	12,374	63.2
Track	7,415	38.8	11,511	58.8
Tennis	3,227	17.1	2,964	16.5
Golf	1,248	6.6	2,498	13.9
Swimming	741	3.9	967	5.4

Football has jumped 10%. Basketball is up 6%. Baseball shows an awesome 35.5% increase, and track a prodigious 20% rise. In the so-called minor sport classification, everything (except tennis) shows an upward trend. The 1956 figures for golf and swimming aren't complete, but even so they show a sharp increase.

Since no 1946 figures were available for the other minor sports, we couldn't make any comparisons with 1956. But, just for the record, you may be interested to know that 9.1% of our schools now field varsity cross-country teams, 12.6% softball teams, 7.3% wrestling teams, 12.2% volleyball clubs, and 3.7% have soccer teams.

The surprising showing of softball and volleyball may be attributed to the astonishing popularity of these games in several states. For example, softball is a varsity sport in 850 Texas schools, 300 Missouri schools, 430 New York schools, and 215 Oklahoma schools. Volleyball is played interscholastically by 490 New York teams, 200 Oregon teams, 164 Wisconsin teams, and 850 Texas teams.

That's the stuff of which wholesome athletic programs are made.

**QUOTING Baseball Digest:** "With Ted Williams set to sign a \$100,000 contract, who said diamonds aren't a man's best friend?"



EIGHTH ANNUAL

## Nassau County Football Clinic

Hofstra College, Hempstead, N. Y.

Friday and Saturday, Feb. 15-16

... FEATURING ...

### BOWDEN WYATT

and U. of Tennessee Staff

DICK HITT • JOHN BAILEY  
RALPH CHANCEY

### VINCE LOMBARDI

Backfield Coach, N. Y. Giants

### (To Be Announced)

Defensive Coach, Army

plus Game movies of Tennessee,  
Syracuse, and New York Giants

### Tuition \$6

Sponsored by Nassau County  
Football Coaches Association

for complete information, write

JOE COADY, Athletic Director  
Carle Place High School  
Carle Place, Long Island, N. Y.

## DOWMETAL Crossbars

These triangular hollow bars are  
the truest, most practical, longest  
lasting crossbars on the market.

- Will last three years or longer with proper care.
- Possess 2" to 6" less sag than wooden or cane poles.
- Uniform all the way across.
- Bends back easily when landed upon. No sharp edges.
- Metal is patented magnesium alloy especially suited to a great deal of bending.

### WEIGHT AND PRICE

12" (jumping)	2.0 lbs.	\$5.95
14" (jumping)	2.3 lbs.	6.70
16" (vaulting)	2.6 lbs.	7.45
18" (vaulting)	3.0 lbs.	8.20

50¢ per bar higher west of Rockies

Write for name of dealer nearest to you.

**K. & P. Athletic Co.**

1115 Jerome St., Midland, Mich.

## MASTER COUPON

To obtain free literature and sample goods,  
carefully check items desired and mail coupon  
directly to Scholastic Coach, Advertising Depart-  
ment, 33 West 42 St., New York 36, N. Y.Numbers in parentheses denote page on which the advertisement may be found. Please  
check the item personally, and to be sure of getting the types of service or infor-  
mation you desire, refer back to the advertisement before checking the listing.

#### AALCO MFG. (66)

- ☐ Catalog of Complete  
Sports Line

#### ALUMINUM ATHLETIC (63)

- ☐ Brochure on Hurdles,  
Standards, Crossbar,  
Vaulting Poles, etc.

#### AMERICAN PLAYGROUND DEVICE (32)

- ☐ Catalog of Dressing  
Room Equipment  
☐ Catalog of Playground  
Equipment  
☐ Catalog of Pool Equip-  
ment

#### AMERICAN WIRE (66)

- ☐ Folder on Locker Baskets  
and Uniform Hanger

#### ARNETT, RICHARD W. (52)

- ☐ Information on Arnett  
Starting Block

#### ARROW BLEACHER (59)

- ☐ Information on Mainte-  
nance-Free Bleachers

#### AUDIO EQUIPMENT (29)

- ☐ Brochure on Electronic  
Megaphone

#### AUSTIN FENCE (69)

- ☐ Brochure on Porta-Weld  
Baseball Backstop

#### BAER PRODUCTS (68)

- ☐ Information on Rein-  
forced Plastic Repair Kit

#### BALL & HALL (68)

- ☐ Literature on All-Alumi-  
num Blocking and Tack-  
ling Machine

#### BENSON OPTICAL (53)

- ☐ Information on Safety  
Athletic Glasses

#### BERLIN CHAPMAN (67)

- ☐ Details on Portable  
Golf Driving Range

#### BRADLEY WASHFTN. (49)

- ☐ Catalog on Multi-Person  
Shower Units

#### BROOKS SHOE (38)

- ☐ Catalog on Athletic  
Footwear

#### BROWN, M. D. (69)

- ☐ Information on Basket-  
ball Timers and Score-  
boards

#### CHICAGO ROLLER SKATE (28)

- ☐ Details on Roller Skating  
Programs and Skating  
Equipment

#### COACHING CLINICS

- Further Information on  
☐ Nassau County Football  
(71)  
☐ National Football (58)

#### CORTLAND RACKET (59)

- ☐ Tennis Tactics Book  
☐ Badminton Book  
How many \_\_\_\_\_

#### CROWTHER, RAE (1)

- ☐ Illustrated Brochures on  
7-Man and 2-Man Block-  
ing and Tackling Ma-  
chines

#### DAKON MACHINE (56)

- ☐ Catalog on Stationary  
and Mobile Whirlpool  
Baths

#### DIMCO-GRAY (61)

- ☐ Information on Electric  
Sports Timer

#### DU PONT (45)

- ☐ Information on High  
Speed Motion Picture  
Film

#### EAGLE RUBBER (41)

- ☐ Information on Complete  
Line of All-Rubber Balls

#### EARVILLE BLEACHER (68)

- ☐ Information on Indoor  
and Outdoor Bleachers

#### FAIR PLAY (22)

- ☐ Catalog on Figurgram  
Scoreboards

#### FEATHERLAX (70)

- ☐ Information on Feather-  
bite Protective Mouth-  
piece

#### FENNER-HAMILTON (65)

- ☐ Literature on Gym-  
Master Line of  
Trampolines

#### GENERAL SPORTCRAFT (2)

- ☐ Official Game Rules  
Booklet (Free to Dept.  
heads, 25c to others)

#### HAND KNIT (26)

- ☐ Information on Wigwam  
Socks for Every Sport

#### HARVARD TAB. TENNIS (19)

- ☐ Table Tennis Tournament  
Kit

#### HILLERICH & BRADSBY (33)

- ☐ 1957 Louisville Slugger  
Catalog  
☐ 1957 Catalog of Grand  
Slam Golf Clubs

#### HILLYARD CHEMICAL (4)

- ☐ Coach's Folder on Gym  
Floor Finishing, Layout  
and Marking  
☐ How to Plan Your Gym  
for Favorite Sports

#### HUNTINGTON LABS. (35)

- ☐ Folder, "Key to Gym  
Floor Finishing"  
☐ Folder, "Sweeping and  
Mapping Floors"

#### HUSSEY MFG. (66)

- ☐ Illustrated Seating  
Catalog

#### IVORY SYSTEM

- (Back Cover)  
☐ Monthly Bulletin,  
"The Observer"

#### JAYFRO ATH. SUPPLY (67)

- Catalog on  
☐ Steel Chain Nets  
☐ Tetherball Sets  
☐ Aluminum Standards

SEE PAGE 72 FOR OTHER LISTINGS AND FORM FOR SIGNATURE

# MASTER COUPON

(See page 71 for other listings)  
(Numbers in parentheses denote page  
on which advertisement may be found)

## JENNISON-WRIGHT (21)

- ☐ Sample and Specifications of Krealite Flexible Strip End Grain Wood Block Flooring

## K. & P. ATHLETIC (71)

- ☐ Literature on Dow-Metal Crossbars

## KING-O-SHEA (50)

- ☐ Information on Custom-Built Athletic Uniforms

## LABCRAFT (56)

- ☐ Information on Speedy Film Processing

## LINEN THREAD (62)

- ☐ Catalog of Invincible Nets for All Sports

## McARTHUR & SONS (64)

- ☐ Free School Towel Plan

## MAGNA MFG. (60)

- ☐ Folder on Tuck-Away Table Tennis Tables

## MAPLE FLOORING (27)

- ☐ Information on Northern Hard Maple Floors

## MASTER LOCK (61)

- ☐ Catalog of Combination Padlocks

## MEDART PRODUCTS (15)

- Catalogs on
  - ☐ Basketball Backstops and Scoreboards
  - ☐ Telescopic Gym Seats
  - ☐ Locker Room Equipment
  - ☐ Gymnasium Apparatus

## NADEN (54)

- Electric Scoreboards and Timers
  - ☐ Baseball Catalog
  - ☐ Basketball Catalog
  - ☐ Football Catalog

## NATIONAL SPORTS (68)

- ☐ Circulars on Floor and Wall Mats and Covers, and Baseball Bases

## NEVCO SCOREBOARD (64)

- ☐ Bulletins on Electric Scoreboards

## NEW EQUIPMENT (30, 34)

- ☐ Shower Control
- ☐ Knee Strengtheners
- ☐ Movie Projector
- ☐ Portable Bowling Set
- ☐ Rust-Free Hurdle
- ☐ Golf Nets
- ☐ Basketball Scoreboard
- ☐ Deodorizer
- ☐ Automatic Pitcher
- ☐ Thumper Trampoline
- ☐ Plastic Repair Kit
- ☐ Powerized Bleachers
- ☐ Scotch Brand Plastic Tape #471

## NISSEN TRAMPOLINE (31)

- ☐ New Catalog on Nissen Trampolines

## NURRE COS. (63)

- ☐ Booklet on All-Glass Banks

## OCEAN POOL (55)

- ☐ Catalog of Swim and Pool Equipment

## PENNA. ATH. PRODUCTS (37)

- ☐ Catalog on Complete Line of Rubber Balls

## PITTSBURGH-DES MOINES (47)

- ☐ Information on Steel-Deck Grandstands

## PRECISION GOGGLE (54)

- ☐ Brochure on Non-Shattering Athletic Goggles

## RAWLINGS (3)

- ☐ Catalog of Football Equipment
- ☐ Booklet, "Care and Cleaning of Athletic Uniforms"

## RICHARDS-WILCOX (57)

- ☐ Details on Folder-Way Aluminum Partitions

## RIDDELL, JOHN T.

- (Inside Front Cover)
- ☐ Information on Quality Line of Football Equip.

## ROBBINS FLOORING (67)

- ☐ Information on Iron-bound Continuous Strip Maple Gym Floors

## SAFWAY STEEL (39, 55)

- ☐ Information on Telescoping Gym Seats and Tubular Steel Bleachers

## SAND KNITTING (62)

- ☐ 1957 Football Clothing Catalog

## SANI-MIST (14)

- ☐ Details of Sani-Mist Method for Preventing Athlete's Foot

## SPALDING & BROS. (43)

- ☐ Catalog

## SPANJIAN (53)

- ☐ Catalog of Baseball Uniforms

## STERLING NET (57)

- ☐ Information on Nylon Golf Driving Net

## SUPERIOR FILM (66)

- ☐ Details on 16-mm Movie Processing Service

## TRACK & FIELD EQUIP. (65)

- ☐ Catalog of Complete Line of Athletic Field Equipment

## TRAVELRAIN (68)

- ☐ Literature on Automatic Power Sprinkler

## UNION METAL (51)

- ☐ Catalog on Floodlighting and Area Lighting Poles

## UNIVERSITY ATH. EQUIP. (52)

- ☐ Literature on Uniform Drying Hangers and Ground Plugs (for marking fields)

## WELLS LUMBER (42)

- ☐ Information on Northern Maple for Gym Floors

## WHITEHALL MEDICAL (70)

- ☐ Information on Mobile Whirlpool Bath

## WILSON (6, 48)

- ☐ Catalog

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NAME \_\_\_\_\_ POSITION \_\_\_\_\_  
(Principal, coach, athletic director, physical director)

SCHOOL \_\_\_\_\_ ENROLLMENT \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ ZONE \_\_\_\_\_ STATE \_\_\_\_\_

No coupon honored unless position is stated

January 1957

✓ FULL PROTECTION  
✓ COMPLETE FREEDOM OF MOVEMENT

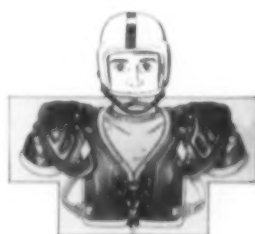
# ONLY Wilson T-SQUARE SHOULDER PADS CAN GIVE YOU BOTH!

Wilson T-Square Shoulder Pads are designed to keep pace with defensive and offensive developments of modern football—in accord with recommendations made by the game's most successful coaches. For instance, the longer molded body fibers (padded with 3/4-inch Ensolite) have been extended for greater chest and breastbone protection in today's wide open style of play.

There's no underarm chafing, no shifting "rock and roll" of shoulder pads with Wilson T-Square. They stay in place for that downfield block—the newly designed

Wilson extension body straps see to that. Double shoulder caps protect the shoulder socket—not merely the upper arm—by distributing shock to the outer edges.

We call it the T-Square because in body contact the epaulet remains flatly in place—squared away! See for yourself why Wilson T-Square pads are the best and safest in football today. Ask your Wilson representative to fit your team accurately with T-Square Tailoring, exclusive with Wilson. Sizes 38-56 in an extensive variety of models for professional, university and high school play.



Wilson T-Square Shoulder Pads will not raise or bind. The fit is the secret.



## PROTECTION

- 1 Double shoulder caps distribute shock.
- 2 New epaulets are brought forward to ride smoothly on double shoulder caps and are padded with 3/4-inch Ensolite.
- 3 Ensolite padding, most effective shock absorbing material ever developed, will not absorb moisture; pads are no heavier at end of game.

## FREEDOM OF MOVEMENT

- 4 Web-locked epaulets eliminate epaulet sway—hold epaulets in proper position at all times without interfering with arm movement.
- 5 New style back extension straps position the elastic body strap which holds the pads snugly in place at all times. No underarm chafing.
- 6 Two-eyelet lacer allows pads to flex in a hinge movement without creeping upward. Pads draw back to normal when arms are at rest.



# Win with Wilson

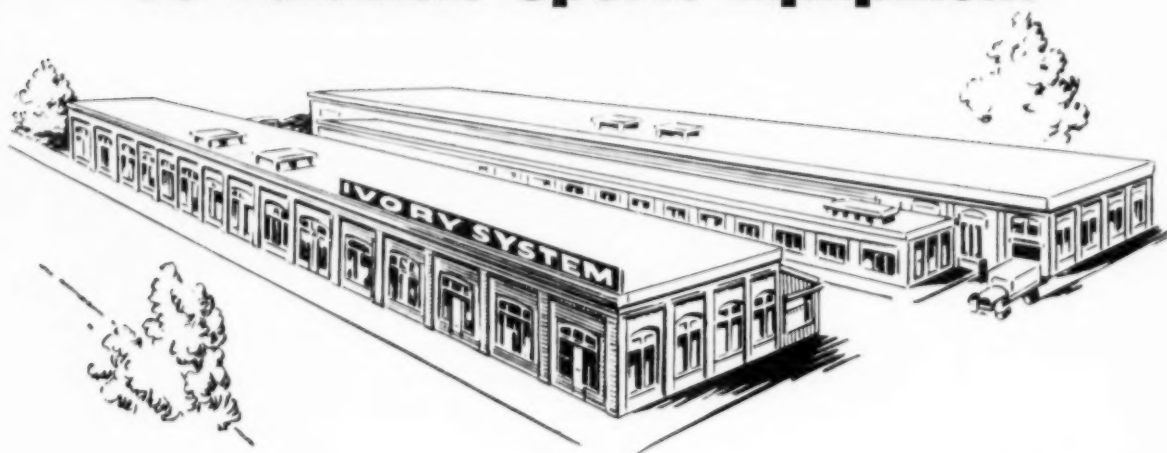
Wilson Sporting Goods Co., Chicago • Fastest nationwide service from 32 branch offices • [A subsidiary of Wilson & Co., Inc.]



**IVORY SYSTEM** gives

# *Guaranteed Protection*

## **To Valuable Sports Equipment**



Avoid perspiration damage to athletic gear by sending it now to IVORY SYSTEM for expert reconditioning.

Your Sports equipment will be completely protected against the hazards of mildew, moths, fire and theft in our unexcelled storage facilities.

At IVORY SYSTEM you get the benefit of expert workmanship plus the guaranteed protection of over \$2,000,000 worth of insurance.

Play it safe by sending all sports equipment to IVORY SYSTEM!

**AMERICA'S OLDEST and LARGEST  
RECONDITIONERS of ATHLETIC EQUIPMENT**

*The* **IVORY SYSTEM** *inc.*

PEABODY

MASSACHUSETTS

**SOLE DISTRIBUTORS OF:**

**VITA-SAN**

Offers positive protection against athlete's foot in shoes and locker room.

**DAWNIDE**

Longest wearing and toughest lacing material ever made for athletic shoes.